

Cancer in Virginia: Overview and Data Tables

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I. Objectives

Cancer is a major public health issue in Virginia, associated with significant morbidity, mortality, and health care utilization and costs. This report gives an overview of cancer in Virginia. It is data-driven, with the goal to present the latest available cancer incidence, staging, mortality, risk factor, screening, survivorship, and cost data through extensive tables and maps. The report has five areas of focus:

1. Cancer Overview
2. Geographic Variation
3. Racial/Ethnic Disparities
4. Differences in Cancer Risk Factor and Screening Behavior By Socioeconomic Status and Insurance Coverage
5. Cancer Survivorship

II. Data and Methods

Data were obtained from several sources. Virginia cancer incidence and staging data were obtained primarily from the Virginia Cancer Registry, Virginia cancer mortality data from the Virginia Department of Health Division of Health Statistics, Virginia screening, risk factor, and survivorship data from the Behavioral Risk Factor Surveillance System, and Virginia cancer cost and health care utilization data from the Virginia Health Information Hospital Discharge Patient-Level Dataset. Publicly available Behavioral Risk Factor Surveillance System data, accessible online through the CDC website, were used to facilitate comparisons between Virginia and the United States with respect to risk factors and screening.

Counts were used to show the number of newly diagnosed cases (incidence) and the number of deaths (mortality). Age-adjusted incidence and mortality rates were used to facilitate comparisons across different populations, accounting for differences in population size and age structure. Prevalence estimates were used to show the percentage of people reporting certain screening and risk factor behaviors. Ninety-five percent confidence intervals (95% CIs) were used to quantify random variability in the data. Stratified analyses were performed to look at data by geography (health district), race/ethnicity (African-Americans vs. whites), and socioeconomic status (education and income) and health care coverage. The ability to look at data by county and by additional racial/ethnic groups was limited by small numbers.

More detailed information can be found in footnotes.

III. Cancer Overview

III. Cancer Overview

All Sites Cancer Overview

- Cancer is the second leading cause of cancer death (after heart disease) in the United States. Men have about a 44% chance and women about a 37% chance of developing cancer during their lifetime.¹
- Over the 2005-2009 time period, the incidence rate of cancer was 454.4 cases per 100,000 in Virginia.² (U.S. rate=465.2 cases per 100,000)³
- The five health districts with the highest all sites cancer rates in Virginia were Chesterfield, Crater, Hampton, Rappahannock, and Chickahominy. The five health districts with the lowest rates were Alexandria, Arlington, Fairfax, Loudon, and Cumberland Plateau. There appeared to be a band of high cancer incidence that stretched from Crater Health District up to the northwest through Rappahannock/Rapidan Health District.²
- Overall, African-Americans had a higher all sites cancer incidence rate than whites due to an especially high rate in African-American males. Of African-American and white males and females, African-American males had the highest rate of cancer incidence followed by white males and African-American females had the lowest rate of cancer incidence.²
- Over the 2006-2010 time period, the mortality rate from cancer was 177.4 deaths per 100,000 in Virginia.⁴ (U.S. rate=175.3 deaths per 100,000)⁵
- The five health districts with the highest all sites cancer mortality rates in Virginia were Portsmouth, Crater, Western Tidewater, Eastern Shore, and Lenowisco. The five health districts with the lowest rates were Alexandria, Arlington, Fairfax, Loudoun, and Virginia Beach.⁴
- African-Americans had a higher all sites cancer mortality rate than whites. The cancer mortality rate was especially high in African-American males. African-American males and females had higher cancer mortality rates than white males and females, respectively.⁴
- In Virginia in 2010, there were 22,661 inpatient hospitalizations for cancer at a total cost of over \$1 billion. The average length of stay was 6.4 days and the average charge per stay was \$48,663.⁶

¹American Cancer Society *Cancer Facts & Figures 2009* (<http://www.cancer.org>)

² Virginia Cancer Registry. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

³Howlader N, Noone AM, Krapcho M, Neyman N, Aminou R, Waldron W, Altekruse SF, Kosary CL, Ruhl J, Tatalovich Z, Cho H, Mariotto A, Eisner MP, Lewis DR, Chen HS, Feuer EJ, Cronin KA (eds). SEER Cancer Statistics Review, 1975-2009 (Vintage 2009 Populations), National Cancer Institute. Bethesda, MD, http://seer.cancer.gov/csr/1975_2009_pops09/, based on November 2011 SEER data submission, posted to the SEER web site, April 2012. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

⁴VDH Division of Health Statistics. Based on combined data from 2006-2010. Rates are age-adjusted to the 2000 U.S. standard population.

⁵ Miniño AM, Murphy SL, Xu JQ, Kochanek KD. Deaths: Final data for 2008. National vital statistics reports; vol 59 no 10. Hyattsville, MD: National Center for Health Statistics. 2011. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_10.pdf. National rate is the 2008 age-adjusted rate, which is comparable to the state five-year interval midpoint.

⁶VDH Virginia Health Information Hospital Discharge Patient-Level Dataset.

III. Cancer Overview

Breast Cancer (Female) Overview

- Breast cancer is the most commonly diagnosed cancer (excluding non-melanoma skin cancer) and the second leading cause of cancer death (after lung cancer) among women in the United States. One in eight women will be diagnosed with breast cancer during her lifetime.¹
- Over the 2005-2009 time period, the incidence rate of breast cancer was 124.0 cases per 100,000 women in Virginia.² (U.S. rate=124.3 cases per 100,000 women)³
- Chesterfield, Portsmouth, and Hampton had the highest incidence rates of breast cancer among the 35 health districts.²
- Over the 2006-2010 time period, the mortality rate from breast cancer was 23.9 deaths per 100,000 women in Virginia.⁴ (U.S. rate=22.5 deaths per 100,000 women)⁵
- Western Tidewater, Portsmouth, and Piedmont had the highest mortality rates from breast cancer among the 35 health districts.⁴
- The rate of breast cancer incidence did not appear to differ substantially between African-American and white women;² however, African-American women had a mortality rate that was 48% higher than that of white women.⁴
- Breast cancer has a five-year relative survival rate of 98 percent if diagnosed in its earliest (local) stage when it is most curable.¹ In Virginia, 61 percent of breast cancer diagnosed was local stage.²
- New River, Western Tidewater, and Eastern Shore had the lowest percentage of breast cancer cases diagnosed local stage among the 35 health districts.²
- White women (63%) were more likely to have their breast cancer diagnosed local stage than African-American women (53%).²
- According to 2010 health behavior survey data, 78% of Virginia women 40 years and older reported having had a mammogram in the previous two years. (U.S. average=75%)⁶
- Cumberland Plateau, Rappahannock/Rapidan, and West Piedmont had the lowest mammography screening rates among the 35 health districts.⁷
- Mammography screening rates were lower among women who were less educated, lower income, and uninsured. The prevalence of mammography screening was 81% among African-American women and 78% among white women.⁷
- In Virginia in 2010, there were 1,712 inpatient hospitalizations for female breast cancer, at a total cost of over \$59 million. The average length of stay was 2.3 days and the average charge per stay was \$34,479.⁸

¹American Cancer Society *Cancer Facts & Figures 2009* (<http://www.cancer.org>)

² Virginia Cancer Registry. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

³Howlander N, Noone AM, Krapcho M, Neyman N, Aminou R, Waldron W, Altekruse SF, Kosary CL, Ruhl J, Tatalovich Z, Cho H, Mariotto A, Eisner MP, Lewis DR, Chen HS, Feuer EJ, Cronin KA (eds). SEER Cancer Statistics Review, 1975-2009 (Vintage 2009 Populations), National Cancer Institute. Bethesda, MD,

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http://seer.cancer.gov/csr/1975_2009_pops09/, based on November 2011 SEER data submission, posted to the SEER web site, April 2012. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

⁴VDH Division of Health Statistics. Based on combined data from 2006-2010. Rates are age-adjusted to the 2000 U.S. standard population.

⁵ Miniño AM, Murphy SL, Xu JQ, Kochanek KD. Deaths: Final data for 2008. National vital statistics reports; vol 59 no 10. Hyattsville, MD: National Center for Health Statistics. 2011. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_10.pdf. National rate is the 2008 age-adjusted rate, which is comparable to the state five-year interval midpoint.

⁶Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2010. (<http://apps.nccd.cdc.gov/brfss>) Accessed 6/18/12.

⁷Virginia Risk Factor Surveillance System. Based on 2008 and 2010 data (pooled). Percentages are population-weighted.

⁸VDH Virginia Health Information Hospital Discharge Patient-Level Dataset.

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Cervical Cancer Overview

- Cervical cancer is not among the top ten cancers diagnosed, nor is it among the top ten causes of cancer death, among women in the United States. One in 145 women will be diagnosed with cervical cancer during her lifetime. Cervical cancer incidence and mortality have fallen substantially over the last several decades due to Pap test screening.¹
- Over the 2005-2009 time period, the incidence rate of cervical cancer was 6.6 cases per 100,000 women in Virginia.²(U.S. rate=8.1 cases per 100,000 women)³
- Eastern Shore, Roanoke, and Portsmouth had the highest incidence rates of cervical cancer among the 35 health districts.²
- Over the 2006-2010 time period, the mortality rate from cervical cancer was 2.1 deaths per 100,000 women in Virginia.⁴ (U.S. rate=2.4 deaths per 100,000 women)⁵
- Cervical cancer incidence rates were 7.2 per 100,000 for African-American women and 6.4 per 100,000 for white women;² African-American women had a mortality rate that was 89% higher than that of white women.⁴
- Cervical cancer has a five-year relative survival rate of 92 percent if diagnosed in its earliest (local) stage when it is most curable.¹ In Virginia, 49% of cervical cancer diagnosed was local stage.²
- White women (51%) were more likely to have their cervical cancer diagnosed local stage than African-American women (40%).²
- According to 2010 health behavior survey data, 85% of Virginia women aged 18 years and older reported having had a Pap test in the previous three years. (U.S. average=81%)⁶
- Mount Rogers, Central Virginia, and Pittsylvania/Danville had the lowest percentages of Pap test screening among the 35 health districts.⁷
- Pap test screening prevalence was lower among women who were less educated, lower income, and uninsured. The prevalence of Pap test screening was 87% in African American women and 84% in white women.⁷
- In Virginia in 2010, there were 243 inpatient hospitalizations for cervical cancer, at a total cost of over \$7.8 million. The average length of stay was 3.6 days and the average charge per stay was \$32,343.⁸

¹American Cancer Society *Cancer Facts & Figures 2009* (<http://www.cancer.org>)

² Virginia Cancer Registry. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

³Howlader N, Noone AM, Krapcho M, Neyman N, Aminou R, Waldron W, Altekruse SF, Kosary CL, Ruhl J, Tatalovich Z, Cho H, Mariotto A, Eisner MP, Lewis DR, Chen HS, Feuer EJ, Cronin KA (eds). SEER Cancer Statistics Review, 1975-2009 (Vintage 2009 Populations), National Cancer Institute. Bethesda, MD, http://seer.cancer.gov/csr/1975_2009_pops09/, based on November 2011 SEER data submission, posted to the SEER web site, April 2012. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

⁴VDH Division of Health Statistics. Based on combined data from 2006-2010. Rates are age-adjusted to the 2000 U.S. standard population.

⁵ Miniño AM, Murphy SL, Xu JQ, Kochanek KD. Deaths: Final data for 2008. National vital statistics reports; vol 59 no 10. Hyattsville, MD: National Center for Health Statistics.

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2011. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_10.pdf. National rate is the 2008 age-adjusted rate, which is comparable to the state five-year interval midpoint.

⁶ Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2010. (<http://apps.nccd.cdc.gov/brfss>) Accessed 6/19/12.

⁷ Virginia Behavioral Risk Factor Surveillance System. Based on 2008 and 2010 data (pooled). Percentages are population-weighted.

⁸ VDH Virginia Health Information Hospital Discharge Patient-Level Dataset.

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Colorectal Cancer Overview

- Colorectal cancer is the third most commonly diagnosed cancer (excluding non-melanoma skin cancer) and the third leading cause of cancer death among men and women in the United States. One in eighteen men and one in twenty women will be diagnosed with colorectal cancer during their lifetime. Colorectal cancer incidence and mortality rates have fallen over the past couple of decades.¹
- Over the 2005-2009 time period, the incidence rate of colorectal cancer in Virginia was 43.1 cases per 100,000.² (U.S. rate=46.3 cases per 100,000)³
- Pittsylvania/Danville, Central Virginia, and Crater had the highest incidence rates of colorectal cancer among the 35 health districts.²
- Over the 2006-2010 time period, the mortality rate from colorectal cancer in Virginia was 15.9 deaths per 100,000.⁴ (U.S. rate=16.4 deaths per 100,000)⁵
- Western Tidewater, Crater, and Chesterfield had the highest mortality rates from colorectal cancer among the 35 health districts.⁴
- Incidence rates in Virginia were higher in men compared to women and in African-Americans compared to whites. African-American men were diagnosed with colorectal cancer at an especially high rate. Incidence rate (per 100,000 population) = 62.9 for African-American men, 47.6 for white men, 45.6 for African-American women, and 36.2 for white women.²
- Mortality rates in Virginia were higher in men compared to women and in African-Americans compared to whites. African-American men died from colorectal cancer at an especially high rate. Mortality rate (per 100,000 population) = 28.0 for African-American men, 18.4 for African-American women, 17.7 for white men, and 12.9 for white women.⁴
- Colorectal cancer has a five-year relative survival rate of 90 percent if diagnosed in its earliest (local) stage when it is most curable.¹ In Virginia, 40 percent of colorectal cancer diagnosed was local stage.²
- Arlington, Chesterfield, and Eastern Shore, Chesterfield had the lowest percentage of colorectal cancer cases diagnosed local stage among the 35 health districts.²
- The percentage of colorectal cancer cases diagnosed local stage was low for whites (41%) and African-Americans (39%).²
- According to 2010 health behavior survey data, 69% of Virginia adults aged 50 years and older reported ever having had an endoscopy (e.g. colonoscopy, sigmoidoscopy). (U.S. average=65%)⁶
- Cumberland Plateau, Lenowisco, and Mount Rogers had the lowest percentages of colorectal screening among the 35 health districts.⁷
- Colorectal screening rates were lower among adults who were less educated, lower income, and did not have insurance. The colorectal screening prevalence was 68% among African-Americans and 64% among whites.⁷
- In Virginia in 2010, there were 2,879 inpatient hospitalizations for colorectal cancer, at a total cost of over \$160 million. The average length of stay was 8.0 days and the average charge per stay was \$55,770.⁸

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¹American Cancer Society *Cancer Facts & Figures 2009* (<http://www.cancer.org>)

²Virginia Cancer Registry. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

³Howlander N, Noone AM, Krapcho M, Neyman N, Aminou R, Waldron W, Altekruse SF, Kosary CL, Ruhl J, Tatalovich Z, Cho H, Mariotto A, Eisner MP, Lewis DR, Chen HS, Feuer EJ, Cronin KA (eds). SEER Cancer Statistics Review, 1975-2009 (Vintage 2009 Populations), National Cancer Institute. Bethesda, MD, http://seer.cancer.gov/csr/1975_2009_pops09/, based on November 2011 SEER data submission, posted to the SEER web site, April 2012. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

⁴VDH Division of Health Statistics. Based on combined data from 2006-2010. Rates are age-adjusted to the 2000 U.S. standard population.

⁵Miniño AM, Murphy SL, Xu JQ, Kochanek KD. Deaths: Final data for 2008. National vital statistics reports; vol 59 no 10. Hyattsville, MD: National Center for Health Statistics. 2011. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_10.pdf. National rate is the 2008 age-adjusted rate, which is comparable to the state five-year interval midpoint.

⁶Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2010. (<http://apps.nccd.cdc.gov/brfss>) Accessed 6/20/12.

⁷Virginia Behavioral Risk Factor Surveillance System. Based on 2008 and 2010 (pooled) data. Percentages are population-weighted.

⁸VDH Virginia Health Information Hospital Discharge Patient-Level Dataset.

III. Cancer Overview

Lung and Bronchus Cancer Overview

- Lung and bronchus cancer is the second most commonly diagnosed cancer (excluding non-melanoma skin cancer) and the leading cause of cancer death among both men and women in the United States. One in thirteen men and one in sixteen women will be diagnosed with lung and bronchus cancer during their lifetime. Incidence and mortality rates among men have fallen over the last two decades. Increasing incidence and mortality rates among women have leveled off in recent years.¹
- Over the 2005-2009 time period, the incidence rate of lung and bronchus cancer in Virginia was 67.4 cases per 100,000.² (U.S. rate=62.6 cases per 100,000)³
- Eastern Shore, Lenowisco, and Crater had the highest incidence rates of lung and bronchus cancer among the 35 health districts.²
- Over the 2006-2010 time period, the mortality rate from lung and bronchus cancer in Virginia was 50.9 deaths per 100,000.⁴ (U.S. rate=49.5 deaths per 100,000)⁵
- Lenowisco, Eastern Shore, and Crater had the highest mortality rates from lung and bronchus cancer among the 35 health districts.⁴
- Incidence rates were higher in men compared to women in Virginia. African-American men were diagnosed with lung and bronchus cancer at an especially high rate. Incidence rate (per 100,000 population) = 103.2 for African-American men, 83.7 for white men, 56.5 for white women, and 50.0 for African-American women.²
- Mortality rates were higher in men compared to women in Virginia. African-American men died from lung and bronchus cancer at an especially high rate. Mortality rate (per 100,000 population) = 82.8 for African-American men, 65.3 for white men, 40.8 for white women, and 38.0 for African-American women.⁴
- Lung and bronchus cancer has a five-year relative survival rate of 50 percent if diagnosed in its earliest (local) stage.¹ In Virginia, only 19 percent of lung and bronchus cancer diagnosed was local stage.²
- Crater, Piedmont, and Western Tidewater had the lowest percentage of lung and bronchus cancer cases diagnosed local stage among the 35 health districts.²
- The percentage of lung and bronchus cancer cases diagnosed local stage was low for both whites (19%) and African-Americans (15%) in Virginia.²
- According to 2010 health behavior survey data, 19% of adults in Virginia were current smokers (U.S. average=17%).⁶
- Southside, Lenowisco, and Roanoke had the highest smoking percentages among the 35 health districts.⁷
- Prevalence of current smoking was higher among those who were less educated, lower income, and uninsured. Current smoking prevalence was similar in African-Americans and whites.⁷

III. Cancer Overview

- In Virginia in 2010, there were 3,062 inpatient hospitalizations for lung and bronchus cancer, at a total cost of about \$140 million. The average length of stay was 6.5 days and the average charge per stay was \$45,642.⁸

¹American Cancer Society *Cancer Facts & Figures 2009* (<http://www.cancer.org>)

² Virginia Cancer Registry. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

³Howlader N, Noone AM, Krapcho M, Neyman N, Aminou R, Waldron W, Altekruse SF, Kosary CL, Ruhl J, Tatalovich Z, Cho H, Mariotto A, Eisner MP, Lewis DR, Chen HS, Feuer EJ, Cronin KA (eds). SEER Cancer Statistics Review, 1975-2009 (Vintage 2009 Populations), National Cancer Institute. Bethesda, MD, http://seer.cancer.gov/csr/1975_2009_pops09/, based on November 2011 SEER data submission, posted to the SEER web site, April 2012. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

⁴VDH Division of Health Statistics. Based on combined data from 2006-2010. Rates are age-adjusted to the 2000 U.S. standard population.

⁵Miniño AM, Murphy SL, Xu JQ, Kochanek KD. Deaths: Final data for 2008. National vital statistics reports; vol 59 no 10. Hyattsville, MD: National Center for Health Statistics. 2011. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_10.pdf. National rate is the 2008 age-adjusted rate, which is comparable to the state five-year interval midpoint.

⁶Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2010. (<http://apps.nccd.cdc.gov/brfss>) Accessed 6/21/12.

⁷Virginia Behavioral Risk Factor Surveillance System. Based on 2008-2010 data (pooled). Percentages are population-weighted.

⁸VDH Virginia Health Information Hospital Discharge Patient-Level Dataset.

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Melanoma Overview

- Melanoma (the most serious form of skin cancer) is among the top five cancers diagnosed among men and women in the United States but is relatively rare as a cause of death. Men have a 2.56% chance and women have a 1.73% chance of being diagnosed with melanoma during their lifetime.¹
- Over the 2005-2009 time period, the incidence rate of melanoma in Virginia was 20.7 cases per 100,000.² (U.S. rate=21.0 cases per 100,000)³
- Virginia Beach, Thomas Jefferson, Chesterfield, and Peninsula had the highest incidence rates of melanoma among the 35 health districts.²
- Over the 2006-2010 time period, the melanoma mortality rate in Virginia was 3.0 deaths per 100,000.⁴ (U.S. rate=2.7 deaths per 100,000)⁵
- Melanoma incidence rates in Virginia were over twenty times greater in whites compared to African-Americans, and were higher in white males compared to white females.²
- Melanoma mortality rates in Virginia were about seven times greater in whites compared to African-Americans, and were over twice as high in white males compared to white females.⁴
- Melanoma has a five-year relative survival rate of 99 percent if diagnosed in its earliest (local) stage when it is most curable.¹ In Virginia, 71 percent of melanoma diagnosed was local stage.²
- Arlington, Loudon, and Fairfax had the lowest percentages of melanoma cases diagnosed local stage among the 35 health districts.²
- The percentage of melanoma cases diagnosed local stage was much higher for whites (74%) compared to African-Americans (46%) in Virginia.²
- According to 2007 health behavior survey data, about a third (32%) of Virginia adults reported having had a sunburn in the previous 12 months.⁶
- Rappahannock, Loudoun, and Lenowisco had the highest percentage of adults reporting a sunburn among the 35 health districts.⁶
- White adults (especially white males) were more likely to report having had a sunburn in the previous 12 months.⁶
- In Virginia in 2010, there were 52 inpatient hospitalizations for melanoma, at a total cost of over \$1.0 million. The average length of stay was 2.8 days and the average charge per stay was \$20,537.⁷

¹American Cancer Society *Cancer Facts & Figures 2009* (<http://www.cancer.org>)

²Virginia Cancer Registry. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

³Howlader N, Noone AM, Krapcho M, Neyman N, Aminou R, Waldron W, Altekruse SF, Kosary CL, Ruhl J, Tatalovich Z, Cho H, Mariotto A, Eisner MP, Lewis DR, Chen HS, Feuer EJ, Cronin KA (eds). SEER Cancer Statistics Review, 1975-2009 (Vintage 2009 Populations), National Cancer Institute. Bethesda, MD, http://seer.cancer.gov/csr/1975_2009_pops09/, based on November 2011 SEER data submission, posted to the SEER web site, April 2012. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

⁴VDH Division of Health Statistics. Based on combined data from 2006-2010. Rates are age-adjusted to the 2000 U.S. standard population.

⁵Miniño AM, Murphy SL, Xu JQ, Kochanek KD. Deaths: Final data for 2008. National vital statistics reports; vol 59 no 10. Hyattsville, MD: National Center for Health Statistics. 2011. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_10.pdf. National rate is the 2008 age-adjusted rate, which is comparable to the state five-year interval midpoint.

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⁶ Virginia Behavioral Risk Factor Surveillance System. Based on 2007 data. Percentages are population-weighted.

⁷ VDH Virginia Health Information Hospital Discharge Patient-Level Dataset.

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Oral Cavity Cancer Overview

- Oral cancer is among the top ten most commonly diagnosed cancers among men but not among women in the United States. It is relatively rare as a cause of death. Incidence and mortality rates in both men and women have fallen over the last couple of decades.¹
- Over the 2005-2009 time period, the incidence rate of oral cancer in Virginia was 10.5 cases per 100,000.² (U.S. rate=10.8 cases per 100,000)³
- Eastern Shore, Norfolk, and Portsmouth had the highest incidence rates of oral cancer among the 35 health districts.²
- Over the 2006-2010 time period, the mortality rate from oral cancer in Virginia was 2.3 deaths per 100,000.⁴ (U.S. rate=2.4 deaths per 100,000)⁵
- Incidence rates were higher in men compared to women in Virginia. The incidence rate was similar for African-American males (16.4 per 100,000) and white males (16.3 per 100,000) and was higher among white females (5.9 per 100,000) compared to African-American females (4.6 per 100,000).²
- Mortality rates were higher in men compared to women in Virginia. The mortality rate was higher in African-Americans compared to whites due to an especially high death rate in African-American males. (Mortality rate=5.3 per 100,000 for African-American males, 3.4 per 100,000 for white males, 1.5 per 100,000 for African-American females, and 1.2 per 100,000 for white females).⁴
- Oral cancer has a five-year relative survival rate of 82 percent if diagnosed in its earliest (local) stage when it is most curable.¹ In Virginia, 31 percent of oral cancer diagnosed was local stage.²
- Norfolk, Portsmouth, and Western Tidewater had the lowest percentages of oral cancer cases diagnosed local stage among the 35 health districts.²
- The percentage of oral cancers diagnosed local stage was lower for males compared to females and for African-Americans compared to whites.²
- According to recent state health behavior survey data, about 4% of adults aged 18 years and older reported currently using smokeless tobacco, a major risk factor for oral cancer. About 45% of adults aged 40 years and older reported that they had an oral cancer examination in the previous year.⁶
- Cumberland Plateau, Lenowisco, and Mount Rogers had the highest percentages of smokeless tobacco use among the 35 health districts.⁶
- Cumberland Plateau, Mount Rogers, and Lenowisco had the lowest prevalence of oral cancer screening among the 35 health districts.⁶
- The prevalence of smokeless tobacco use was much higher among white males (8%) and African-American males (7%) compared to white and African-American females (1%). Adults with less education were more likely to use smokeless tobacco.⁶
- Oral cancer screening was less prevalent in African-Americans compared to whites and in adults who were less educated, lower income, and did not have insurance.⁶
- In Virginia in 2010, there were 381 inpatient hospitalizations for oral cavity cancer, at a total cost of over \$23 million. The average length of stay was 7.6 days and the average charge per stay was \$61,286.⁷

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¹American Cancer Society *Cancer Facts & Figures 2009* (<http://www.cancer.org>)

² Virginia Cancer Registry. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

³Howlader N, Noone AM, Krapcho M, Neyman N, Aminou R, Waldron W, Altekruse SF, Kosary CL, Ruhl J, Tatalovich Z, Cho H, Mariotto A, Eisner MP, Lewis DR, Chen HS, Feuer EJ, Cronin KA (eds). SEER Cancer Statistics Review, 1975-2009 (Vintage 2009 Populations), National Cancer Institute. Bethesda, MD, http://seer.cancer.gov/csr/1975_2009_pops09/, based on November 2011 SEER data submission, posted to the SEER web site, April 2012. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

⁴VDH Division of Health Statistics. Based on combined data from 2006-2010. Rates are age-adjusted to the 2000 U.S. standard population.

⁵Miniño AM, Murphy SL, Xu JQ, Kochanek KD. Deaths: Final data for 2008. National vital statistics reports; vol 59 no 10. Hyattsville, MD: National Center for Health Statistics. 2011. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_10.pdf. National rate is the 2008 age-adjusted rate, which is comparable to the state five-year interval midpoint.

⁶ Virginia Behavioral Risk Factor Surveillance System. Data on smokeless tobacco use is from 2009 and 2010 (combined) and data on oral cancer screening from 2009 and 2010 (combined). Percentages are population-weighted.

⁷ VDH Virginia Health Information Hospital Discharge Patient-Level Dataset.

III. Cancer Overview

Ovarian Cancer Overview

- Ovarian cancer is the ninth most commonly diagnosed cancer (excluding non-melanoma skin cancer) and the fifth leading cause of cancer death among women in the United States.¹
- Over the 2005-2009 time period, the incidence rate of ovarian cancer among women in Virginia was 11.9 cases per 100,000.² (U.S. rate=12.7 cases per 100,000)³
- Roanoke, Three Rivers, and Loud Fairfax had the highest incidence rates of ovarian cancer among the 35 health districts.²
- Over the 2006-2010 time period, the mortality rate from ovarian cancer among women in Virginia was 8.3 deaths per 100,000.⁴ (U.S. rate=8.0 deaths per 100,000)⁵
- Hampton, Thomas Jefferson, and Central Shenandoah had the highest ovarian cancer mortality rates among the 35 health districts.⁴
- In Virginia, incidence rates were higher in white women (12.4 cases per 100,000) compared to African-American women (8.8 cases per 100,000).² Ovarian cancer mortality rates were also higher among white women (8.7 deaths per 100,000) compared to African-American women (7.0 deaths per 100,000).⁴
- Ovarian cancer has a five-year relative survival rate of 93 percent if diagnosed in its earliest (local) stage when it is most curable.¹ In Virginia, only 14 percent of ovarian cancer diagnosed was local stage.²
- The percentage of ovarian cancer cases diagnosed local stage was similar for both white (14%) and African-American (13%) women in Virginia.²
- In Virginia in 2010, there were 564 inpatient hospitalizations for ovarian cancer, at a total cost of over \$25 million. The average length of stay was 6.3 days and the average charge per stay was \$45,376.⁶

¹American Cancer Society *Cancer Facts & Figures 2009* (<http://www.cancer.org>)

² Virginia Cancer Registry. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

³Howlander N, Noone AM, Krapcho M, Neyman N, Aminou R, Waldron W, Altekruse SF, Kosary CL, Ruhl J, Tatalovich Z, Cho H, Mariotto A, Eisner MP, Lewis DR, Chen HS, Feuer EJ, Cronin KA (eds). SEER Cancer Statistics Review, 1975-2009 (Vintage 2009 Populations), National Cancer Institute. Bethesda, MD, http://seer.cancer.gov/csr/1975_2009_pops09/, based on November 2011 SEER data submission, posted to the SEER web site, April 2012. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

⁴VDH Division of Health Statistics. Based on combined data from 2006-2010. Rates are age-adjusted to the 2000 U.S. standard population.

⁵Miniño AM, Murphy SL, Xu JQ, Kochanek KD. Deaths: Final data for 2008. National vital statistics reports; vol 59 no 10. Hyattsville, MD: National Center for Health Statistics. 2011. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_10.pdf. National rate is the 2008 age-adjusted rate, which is comparable to the state five-year interval midpoint.

⁶VDH Virginia Health Information Hospital Discharge Patient-Level Dataset.

III. Cancer Overview

Prostate Cancer Overview

- Prostate cancer is the most commonly diagnosed cancer (excluding non-melanoma skin cancer) and the second leading cause of cancer death among men in the United States. One in six men will be diagnosed with prostate cancer during his lifetime.¹
- Over the 2005-2009 time period, the incidence rate of prostate cancer among men in Virginia was 157.7 cases per 100,000.² (U.S. rate=154.8 cases per 100,000)³
- Chesterfield, Crater, and Hampton had the highest incidence rates of prostate cancer among the 35 health districts.²
- Over the 2006-2010 time period, the mortality rate from prostate cancer among men in Virginia was 24.1 deaths per 100,000.⁴ (U.S. rate=22.3 deaths per 100,000)⁵
- Crater, Western Tidewater, and Portsmouth had the highest mortality rates from prostate cancer among the 35 health districts.⁴
- Incidence rates were over 70% higher in African-American men compared to white men in Virginia.²
- Mortality rates were about 2.5 times greater in African-American men compared to white men in Virginia.⁴
- Prostate cancer has a five-year relative survival rate of about 100 percent if diagnosed in its earliest (local) stage.¹ In Virginia, 79 percent of prostate cancer diagnosed was local stage.²
- Eastern Shore, Arlington, and Norfolk had the lowest percentages of prostate cancer cases diagnosed local stage among the 35 health districts.²
- The percentage of prostate cancer cases diagnosed local stage was 79% for both whites and African-Americans in Virginia.²
- According to 2010 health behavior survey data, 55% of Virginia men 50 years and older reported having had a PSA screening test in the previous two years (U.S. average=53%).⁶
- Cumberland Plateau, West Piedmont, and Lord Fairfax had the lowest percentages of PSA screening among the 35 health districts.⁷
- PSA screening rates were lower among men who were less educated and uninsured. The prevalence of PSA screening was similar among African-American and white men.⁷
- In Virginia in 2010, there were 1,614 inpatient hospitalizations for prostate cancer, at a total cost of over \$62 million. The average length of stay was 2.2 days and the average charge per stay was \$38,483.⁸

¹American Cancer Society *Cancer Facts & Figures 2009* (<http://www.cancer.org>)

² Virginia Cancer Registry. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

³Howlader N, Noone AM, Krapcho M, Neyman N, Aminou R, Waldron W, Altekruse SF, Kosary CL, Ruhl J, Tatalovich Z, Cho H, Mariotto A, Eisner MP, Lewis DR, Chen HS, Feuer EJ, Cronin KA (eds). SEER Cancer Statistics Review, 1975-2009 (Vintage 2009 Populations), National Cancer Institute. Bethesda, MD,

http://seer.cancer.gov/csr/1975_2009_pops09/, based on November 2011 SEER data submission, posted to the SEER web site, April 2012. Based on combined data from 2005-2009. Rates are age-adjusted to the 2000 U.S. standard population.

III. Cancer Overview

⁴VDH Division of Health Statistics. Based on combined data from 2006-2010. Rates are age-adjusted to the 2000 U.S. standard population.

⁵ Miniño AM, Murphy SL, Xu JQ, Kochanek KD. Deaths: Final data for 2008. National vital statistics reports; vol 59 no 10. Hyattsville, MD: National Center for Health Statistics. 2011. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_10.pdf. National rate is the 2008 age-adjusted rate, which is comparable to the state five-year interval midpoint.

⁶ Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2010. (<http://apps.nccd.cdc.gov/brfss>) Accessed 6/27/12.

⁷ Virginia Behavioral Risk Factor Surveillance System. Based on 2008 and 2010 (pooled) data. Percentages are population-weighted.

⁸ VDH Virginia Health Information Hospital Discharge Patient-Level Dataset.

IV. Cancer Data By Health District

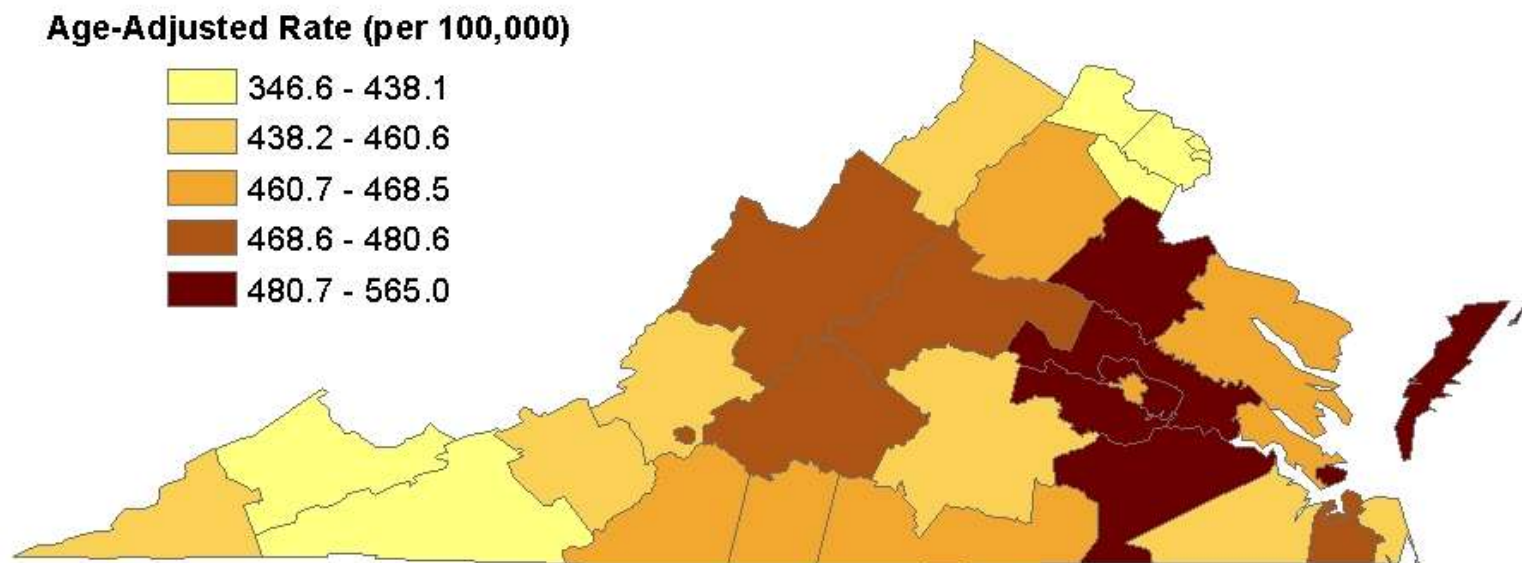
IV. Cancer Data By Health District

All Sites Cancer Data By Health District

Health District	Incidence ¹				Staging ²		Mortality ³			
	Count	Rate per 100,000	95% CI	Rank	Percent Local Stage	Rank	Count	Rate per 100,000	95% CI	Rank
Alexandria	2,363	346.6	332.4 - 361.2	35	47%	19	829	123.7	115.3 - 132.1	35
Alleghany	5,004	449.2	436.7 - 462.1	25	48%	26	2,010	174.1	166.5 - 181.7	28
Arlington	3,282	376.6	363.3 - 390.1	34	45%	15	1,119	132.0	124.2 - 139.7	34
Central Shenandoah	7,480	473.7	462.9 - 484.7	10	44%	11	2,879	174.5	168.1 - 180.8	27
Central Virginia	7,027	480.6	469.3 - 492.1	8	47%	18	2,911	192.9	185.9 - 199.9	17
Chesapeake	4,759	473.1	459.4 - 487.0	12	47%	25	1,887	195.1	186.3 - 203.9	13
Chesterfield	8,319	565.0	552.2 - 578.1	1	49%	30	2,802	200.2	192.8 - 207.6	8
Chickahominy	3,998	510.5	494.4 - 527.0	5	47%	23	1,350	179.5	169.9 - 189.0	24
Crater	4,435	546.1	530.0 - 562.5	2	43%	6	1,796	221.0	210.8 - 231.2	2
Cumberland Plateau	3,008	425.6	410.2 - 441.4	31	43%	8	1,443	200.8	190.4 - 211.2	7
Eastern Shore	1,751	506.6	482.6 - 531.5	6	39%	2	737	210.0	194.9 - 225.2	4
Fairfax	19,654	403.6	397.8 - 409.5	33	49%	29	6,379	140.5	137.1 - 144.0	33
Hampton	3,559	513.9	497.1 - 531.2	3	50%	34	1,338	193.6	183.3 - 204.0	15
Henrico	7,209	481.0	469.9 - 492.3	7	48%	28	2,698	174.1	167.5 - 180.7	29
Lenowisco	2,542	451.8	434.2 - 470.0	23	39%	1	1,207	209.0	197.2 - 220.8	5
Lord Fairfax	5,351	441.3	429.4 - 453.4	27	43%	5	2,440	198.2	190.3 - 206.1	10
Loudoun	3,946	410.1	396.3 - 424.3	32	50%	35	1,242	149.2	140.9 - 157.5	32
Mount Rogers	5,595	438.1	426.5 - 450.0	29	44%	14	2,495	188.7	181.3 - 196.1	20
New River	3,748	446.4	432.0 - 461.1	26	47%	22	1,548	182.3	173.2 - 191.3	23
Norfolk	4,688	473.5	459.9 - 487.4	11	42%	3	2,040	205.6	196.6 - 214.5	6
Peninsula	8,074	463.4	453.3 - 473.7	19	49%	33	3,074	178.4	172.1 - 184.7	25
Piedmont	2,765	450.9	434.1 - 468.3	24	44%	13	1,208	193.1	182.2 - 204.0	16
Pittsylvania/Danville	3,283	468.2	452.0 - 484.8	16	47%	20	1,358	185.5	175.6 - 195.4	21
Portsmouth	2,451	478.3	459.5 - 497.8	9	43%	4	1,201	226.5	213.7 - 239.3	1
Prince William	6,245	426.8	415.4 - 438.5	30	47%	21	2,190	170.3	163.2 - 177.5	30
Rappahannock	6,579	512.0	499.3 - 525.0	4	47%	24	2,411	195.5	187.7 - 203.3	11
Rappahannock/Rapidan	4,175	461.3	447.1 - 475.7	21	46%	17	1,653	185.1	176.2 - 194.1	22
Richmond City	4,895	467.9	454.7 - 481.4	17	44%	10	2,135	195.2	186.9 - 203.4	12
Roanoke	2,685	469.4	451.4 - 487.9	14	44%	12	1,166	191.1	180.1 - 202.0	18
Southside	2,706	461.8	444.2 - 480.0	20	43%	7	1,208	199.8	188.5 - 211.1	9
Thomas Jefferson	5,770	471.1	458.9 - 483.5	13	49%	32	2,188	175.7	168.4 - 183.1	26
Three Rivers	4,690	464.6	451.1 - 478.5	18	45%	16	2,005	194.8	186.3 - 203.3	14
Virginia Beach	8,639	439.8	430.5 - 449.3	28	48%	27	3,234	168.0	162.2 - 173.8	31
West Piedmont	4,322	468.5	454.4 - 483.0	15	49%	31	1,811	188.9	180.2 - 197.6	19
Western Tidewater	3,493	460.6	445.3 - 476.3	22	44%	9	1,595	213.8	203.3 - 224.3	3
VIRGINIA	178,501	454.4	452.2 - 456.5		46%		69,588	177.4	176.1 - 178.8	

IV. Cancer Data By Health District

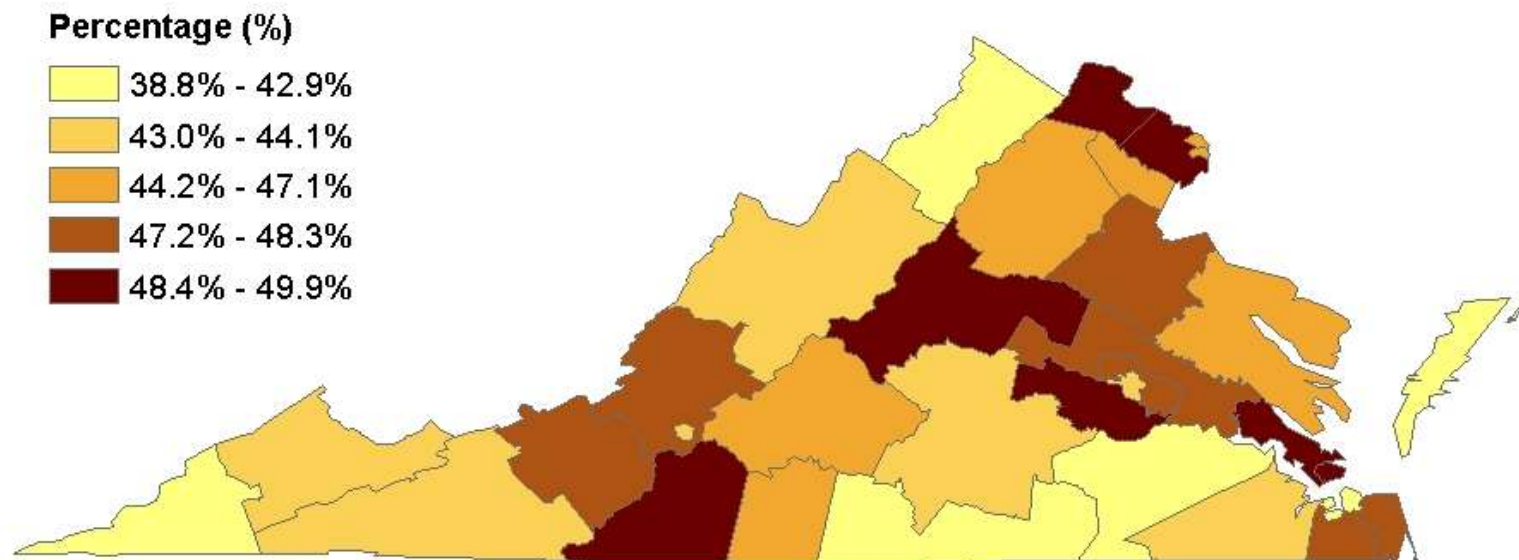
Cancer Incidence Rate by Health District, All Sites, Virginia, 2005-2009



Source: Virginia Cancer Registry, Virginia Department of Health.
Rates are age-adjusted to the 2000 U.S. standard population.

IV. Cancer Data By Health District

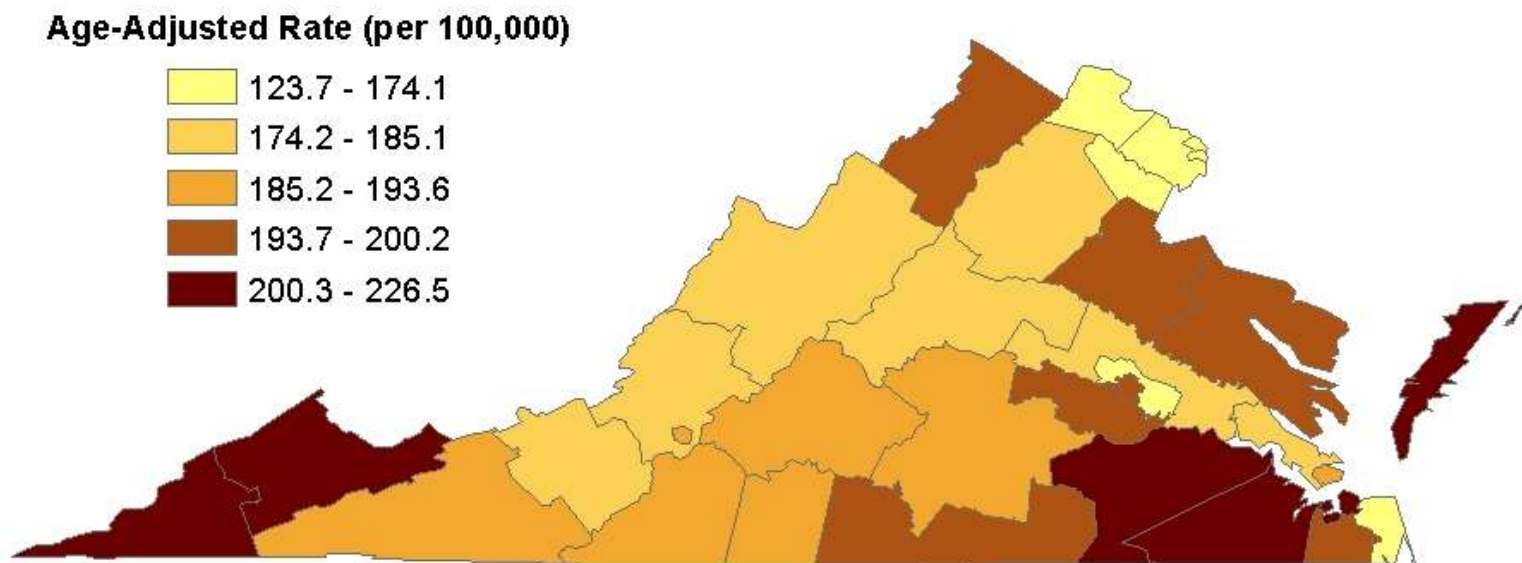
Percentage of Cancer Cases Diagnosed at Local Stage by Health District,
All Sites, Virginia, 2005-2009



Source: Virginia Cancer Registry, Virginia Department of Health.

IV. Cancer Data By Health District

Cancer Mortality Rate by Health District, All Sites, Virginia, 2006-2010



Source: Division of Health Statistics, Virginia Department of Health.
Rates are age-adjusted to the 2000 U.S. standard population.

IV. Cancer Data By Health District

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics)

¹ Based on combined 2005-2009 data. Age-adjusted rates are reported and adjusted to the 2000 U.S. standard population. Districts are ranked in terms of incidence rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher incidence rates) are at greater risk.

² Based on combined 2005-2009 data. Percent of Local Stage cancers reported using the Summary Staging System. Districts are ranked in terms of percentage of cases diagnosed early (local) from lowest (=1) to highest (=35). Districts with lower rankings (i.e. lower early stage percentages) are at greater risk.

³ Based on combined 2006-2010 data. Mortality rates are age-adjusted using the 2000 Standard Population. Districts are ranked in terms of mortality rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher mortality rates) are at greater risk.

Top five districts with the highest risk (i.e. lowest ranks) are highlighted.

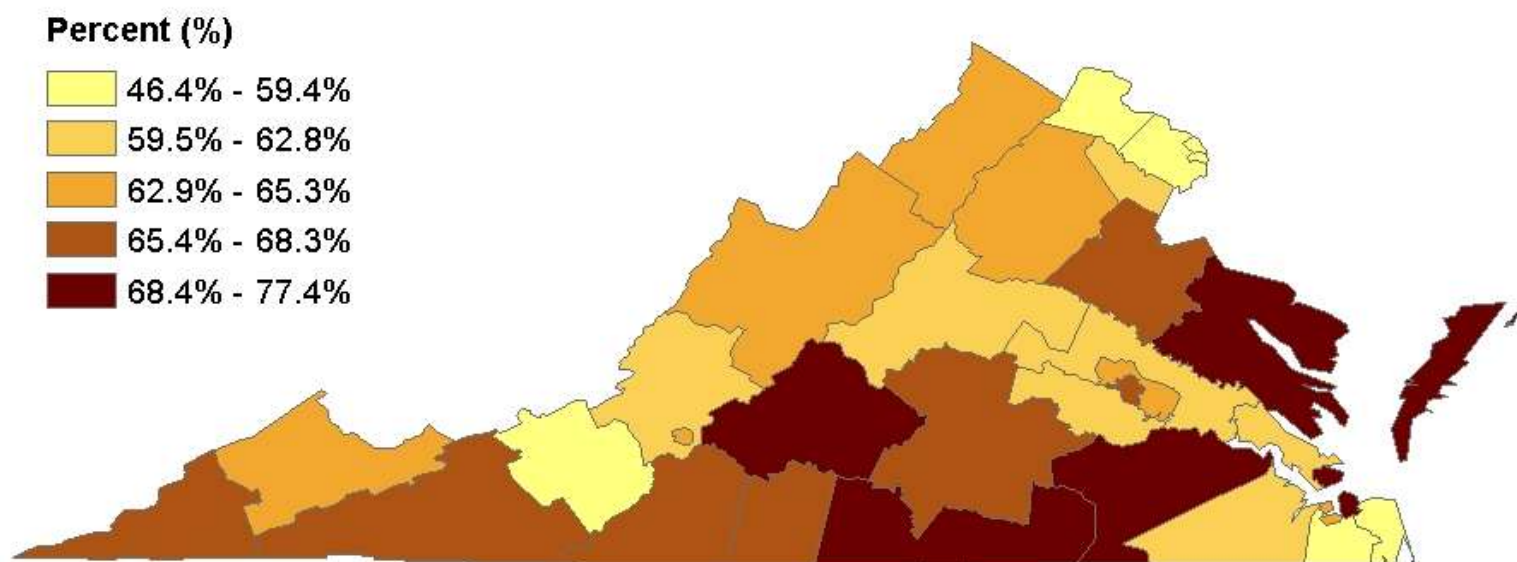
Maps illustrate rates or percentages in quantiles.

IV. Cancer Data By Health District
Select Cancer Risk Factor Data By Health District

Health District	Overweight ¹			Risk Factor: Current Smoking ²		
	Prevalence	95% CI	Rank	Prevalence	95% CI	Rank
Alexandria	52.7%	44.9% - 60.3%	33	7.4%	3.7% - 14.0%	35
Alleghany	61.6%	54.0% - 68.7%	26	19.0%	13.7% - 25.9%	20
Arlington	46.4%	39.2% - 53.7%	35	10.6%	7.0% - 15.7%	34
Central Shenandoah	64.3%	56.3% - 71.6%	18	10.7%	7.8% - 14.5%	33
Central Virginia	71.0%	65.4% - 76.0%	5	23.3%	18.7% - 28.8%	10
Chesapeake	58.1%	51.3% - 64.5%	30	18.1%	13.2% - 24.2%	22
Chesterfield	62.7%	56.1% - 68.8%	23	12.9%	9.3% - 17.5%	31
Chickahominy	61.0%	53.4% - 68.1%	27	19.1%	13.2% - 26.9%	19
Crater	77.4%	70.9% - 82.8%	1	19.9%	15.4% - 25.3%	16
Cumberland Plateau	65.1%	58.2% - 71.5%	16	24.1%	19.2% - 29.9%	6
Eastern Shore	72.7%	67.0% - 77.7%	3	23.4%	17.6% - 30.4%	9
Fairfax	48.6%	40.6% - 56.6%	34	11.9%	6.7% - 20.2%	32
Hampton	73.8%	68.0% - 78.9%	2	16.8%	12.9% - 21.6%	26
Henrico	65.3%	58.7% - 71.3%	15	19.3%	14.5% - 25.3%	17
Lenowisco	65.3%	57.3% - 72.5%	13	28.5%	21.9% - 36.0%	2
Lord Fairfax	64.2%	57.9% - 70.1%	19	23.8%	18.7% - 29.6%	8
Loudoun	54.4%	46.7% - 62.0%	32	13.5%	6.9% - 24.8%	30
Mount Rogers	67.8%	61.4% - 73.5%	9	24.2%	19.0% - 30.4%	5
New River	59.4%	52.9% - 65.6%	29	23.9%	18.4% - 30.3%	7
Norfolk	68.5%	62.4% - 74.0%	7	19.3%	14.9% - 24.6%	18
Peninsula	62.8%	55.5% - 69.6%	22	14.4%	10.6% - 19.4%	29
Piedmont	67.5%	60.0% - 74.2%	10	23.0%	17.8% - 29.1%	11
Pittsylvania/Danville	67.3%	59.5% - 74.2%	11	19.0%	14.2% - 24.9%	21
Portsmouth	62.9%	55.7% - 69.5%	21	19.9%	14.9% - 26.1%	15
Prince William	62.1%	53.7% - 69.8%	24	17.0%	11.0% - 25.4%	24
Rappahannock	68.3%	62.4% - 73.6%	8	20.1%	15.2% - 26.0%	14
Rappahannock/Rapidan	64.9%	58.8% - 70.5%	17	16.7%	11.8% - 23.1%	27
Richmond City	65.3%	58.6% - 71.4%	14	17.5%	13.4% - 22.5%	23
Roanoke	63.0%	56.3% - 69.2%	20	27.0%	20.8% - 34.2%	3
Southside	71.6%	65.1% - 77.4%	4	29.4%	23.6% - 36.0%	1
Thomas Jefferson	61.7%	55.6% - 67.4%	25	16.8%	12.5% - 22.3%	25
Three Rivers	69.1%	63.5% - 74.2%	6	22.3%	17.8% - 27.6%	12
Virginia Beach	54.9%	48.1% - 61.5%	31	21.8%	16.8% - 27.8%	13
West Piedmont	67.2%	60.6% - 73.1%	12	24.4%	18.9% - 31.0%	4
Western Tidewater	59.8%	52.3% - 67.0%	28	15.6%	11.7% - 20.7%	28
VIRGINIA	61.3%	59.6% - 62.9%		18.1%	16.9% - 19.4%	

IV. Cancer Data By Health District

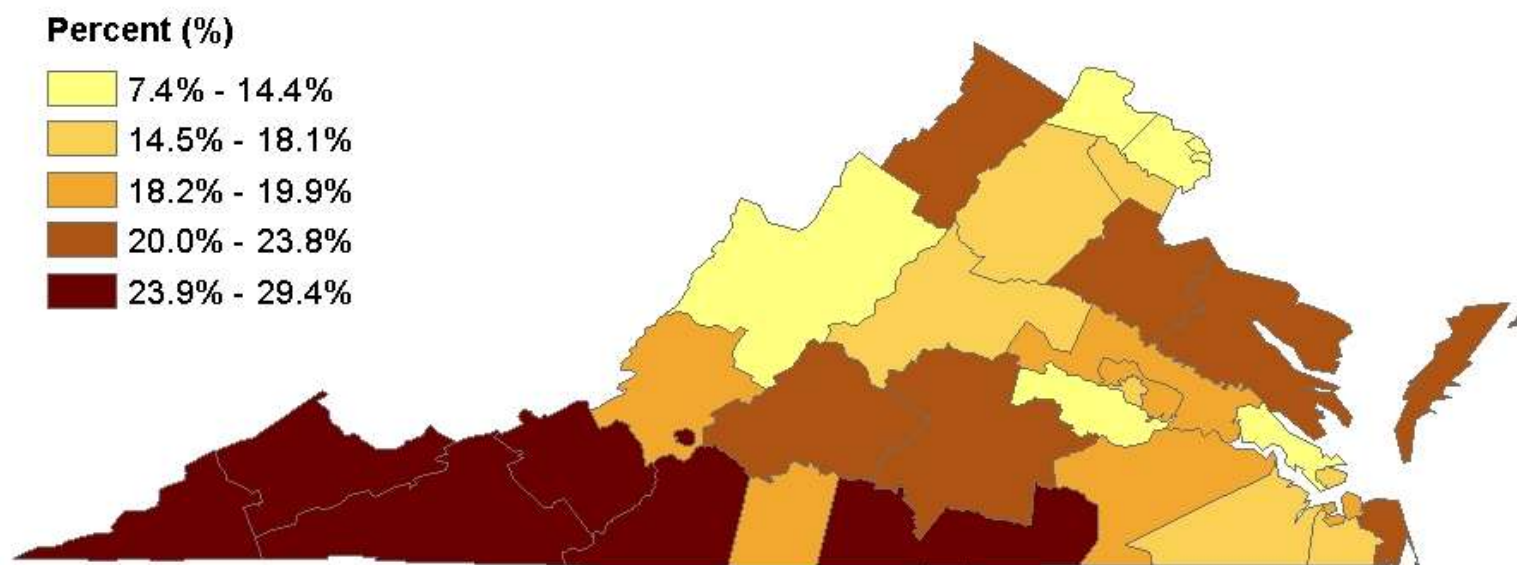
Overweight by Health District, Adults 18 and Older, Virginia, 2008-2010



Source: Virginia Behavioral Risk Factor Surveillance System. Percentages are weighted.
Overweight = Percent with BMI greater than or equal to 25.

IV. Cancer Data By Health District

Current Cigarette Smoking by Health District, Adults 18 and Older, Virginia, 2008-2010



Source: Virginia Behavioral Risk Factor Surveillance System. Percentages are weighted.

IV. Cancer Data By Health District

Source: Behavioral Risk Factor Surveillance System

¹ Overweight = Percentage of adults who report having a BMI greater than or equal to 25. Based on 2008-2010 data (pooled). Percentages are population-weighted. Districts are ranked in terms of prevalence from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher overweight percentages) are at greater risk.

² Smoking=Percentage of adults who report currently smoking and have smoked at least 100 cigarettes in their lifetime. Based on 2008-2010 data (pooled). Percentages are population-weighted. Districts are ranked in terms of prevalence from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher smoking percentages) are at greater risk.

Top five districts with the highest risk (i.e. lowest ranks) are highlighted.

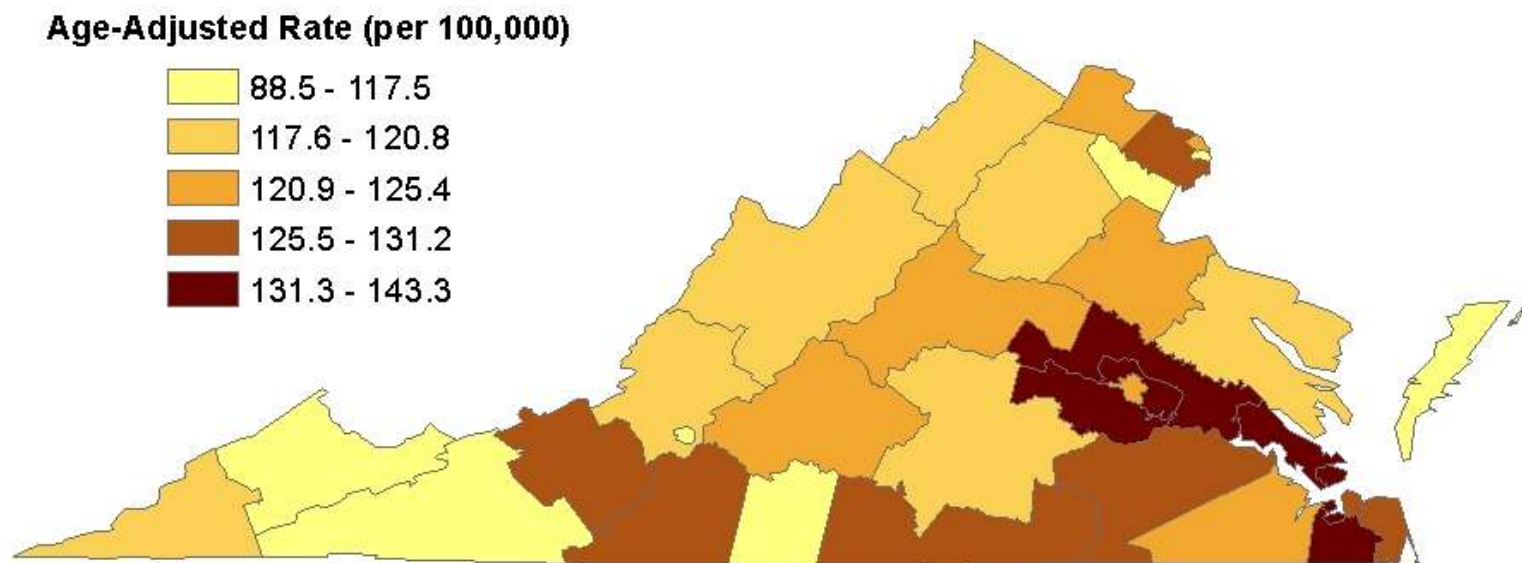
Maps illustrate percentages in quantiles.

IV. Cancer Data By Health District
Breast Cancer (Female) Data By Health District

Health District	Incidence ¹				Staging ²		Mortality ³				Screening Mammography ⁴		
	Count	Rate per 100,000	95% CI	Rank	Percent Local Stage	Rank	Count	Rate per 100,000	95% CI	Rank	Prevalence	95% CI	Rank
Alexandria	404	108.2	97.7 - 119.6	33	59%	16	77	19.1	14.8 - 23.4	35	80.4%	66.8% - 89.3%	23
Alleghany	723	120.1	111.3 - 129.5	23	64%	31	147	23.2	19.5 - 27.0	25	82.4%	75.6% - 87.7%	29
Arlington	565	122.1	112.0 - 132.9	20	62%	25	94	19.2	15.3 - 23.1	34	93.1%	85.6% - 96.8%	35
Central Shenandoah	975	117.9	110.4 - 125.7	27	64%	30	175	19.5	16.6 - 22.4	33	73.1%	62.8% - 81.4%	6
Central Virginia	971	125.1	117.2 - 133.5	16	63%	28	196	23.7	20.4 - 27.0	23	73.8%	65.0% - 80.9%	10
Chesapeake	787	134.8	125.5 - 144.7	4	61%	23	147	25.1	21.1 - 29.2	15	86.4%	78.4% - 91.8%	33
Chesterfield	1,252	143.3	135.2 - 151.8	1	61%	21	188	21.4	18.3 - 24.4	31	72.9%	63.5% - 80.5%	4
Chickahominy	574	132.2	121.4 - 143.6	6	61%	24	101	24.1	19.4 - 28.7	22	76.4%	66.8% - 83.9%	17
Crater	570	131.2	120.5 - 142.6	8	59%	18	115	25.7	21.0 - 30.4	13	76.9%	68.5% - 83.7%	19
Cumberland Plateau	339	88.5	79.1 - 98.8	35	57%	8	99	24.8	19.9 - 29.6	19	60.7%	50.6% - 69.9%	1
Eastern Shore	221	116.7	101.4 - 133.8	30	55%	3	50	26.3	19.0 - 33.6	10	76.4%	67.6% - 83.5%	18
Fairfax	3,522	127.9	123.5 - 132.3	11	63%	27	593	21.8	20.1 - 23.6	28	80.6%	70.9% - 87.5%	24
Hampton	514	135.5	124.0 - 147.8	3	64%	32	97	24.2	19.4 - 29.0	21	72.9%	63.4% - 80.7%	5
Henrico	1,143	134.4	126.6 - 142.5	5	61%	19	244	27.0	23.6 - 30.4	8	80.8%	73.1% - 86.6%	26
Lenowisco	349	119.5	107.0 - 133.1	25	61%	22	76	24.9	19.3 - 30.6	17	75.9%	67.9% - 82.4%	14
Lord Fairfax	773	120.1	111.7 - 129.0	23	61%	20	192	28.4	24.4 - 32.4	4	73.2%	64.6% - 80.3%	7
Loudoun	714	123.4	113.9 - 133.5	18	63%	26	113	21.5	17.6 - 25.5	29	84.4%	73.2% - 91.5%	32
Mount Rogers	701	101.3	93.7 - 109.4	34	58%	11	188	25.6	21.9 - 29.2	14	73.4%	64.7% - 80.5%	8
New River	557	125.7	115.3 - 136.8	14	51%	1	105	22.5	18.2 - 26.8	27	76.0%	67.5% - 82.8%	15
Norfolk	700	127.4	118.0 - 137.3	12	56%	5	155	27.4	23.1 - 31.7	7	81.6%	73.9% - 87.4%	28
Peninsula	1,259	131.4	124.2 - 138.9	7	66%	33	237	24.8	21.6 - 27.9	20	77.5%	67.4% - 85.2%	20
Piedmont	372	117.7	105.7 - 130.8	28	56%	6	94	28.9	23.1 - 34.8	3	75.4%	67.2% - 82.1%	12
Pittsylvania/Danville	430	112.5	101.8 - 124.1	32	64%	29	101	25.1	20.2 - 30.0	16	81.4%	73.5% - 87.3%	27
Portsmouth	399	140.2	126.6 - 154.9	2	59%	15	95	31.4	25.1 - 37.8	2	83.8%	76.0% - 89.4%	31
Prince William	1,026	117.5	110.1 - 125.4	29	58%	13	185	22.8	19.5 - 26.1	26	88.6%	78.6% - 94.2%	34
Rappahannock	905	122.7	114.7 - 131.1	19	57%	9	189	26.0	22.3 - 29.7	12	75.6%	67.2% - 82.4%	13
Rappahannock/Rapidan	567	118.7	109.0 - 129.1	26	56%	7	130	26.7	22.1 - 31.3	9	69.7%	59.4% - 78.3%	2
Richmond City	717	125.4	116.2 - 135.3	15	55%	4	182	28.0	23.9 - 32.1	6	73.4%	63.8% - 81.2%	9
Roanoke	355	114.8	102.7 - 127.9	31	57%	10	85	26.0	20.5 - 31.5	11	74.9%	65.9% - 82.1%	11
Southside	382	129.9	116.5 - 144.4	10	58%	14	90	28.2	22.4 - 34.0	5	76.3%	67.9% - 83.1%	16
Thomas Jefferson	819	124.6	116.1 - 133.6	17	70%	35	140	20.1	16.7 - 23.4	32	83.7%	75.7% - 89.4%	30
Three Rivers	634	120.8	111.2 - 131.0	22	59%	17	132	24.9	20.7 - 29.2	18	80.6%	72.0% - 87.0%	25
Virginia Beach	1,410	126.9	120.4 - 133.8	13	58%	12	266	23.6	20.7 - 26.4	24	79.4%	71.0% - 85.8%	22
West Piedmont	625	130.7	120.3 - 141.8	9	68%	34	113	21.5	17.5 - 25.4	30	72.5%	63.4% - 80.1%	3
Western Tidewater	508	121.0	110.6 - 132.1	21	55%	2	137	32.1	26.7 - 37.5	1	78.8%	70.2% - 85.5%	21
VIRGINIA	26,763	124.0	122.5 - 125.5		61%		5,329	23.9	23.2 - 24.5		77.8%	76.1% - 79.5%	

IV. Cancer Data By Health District

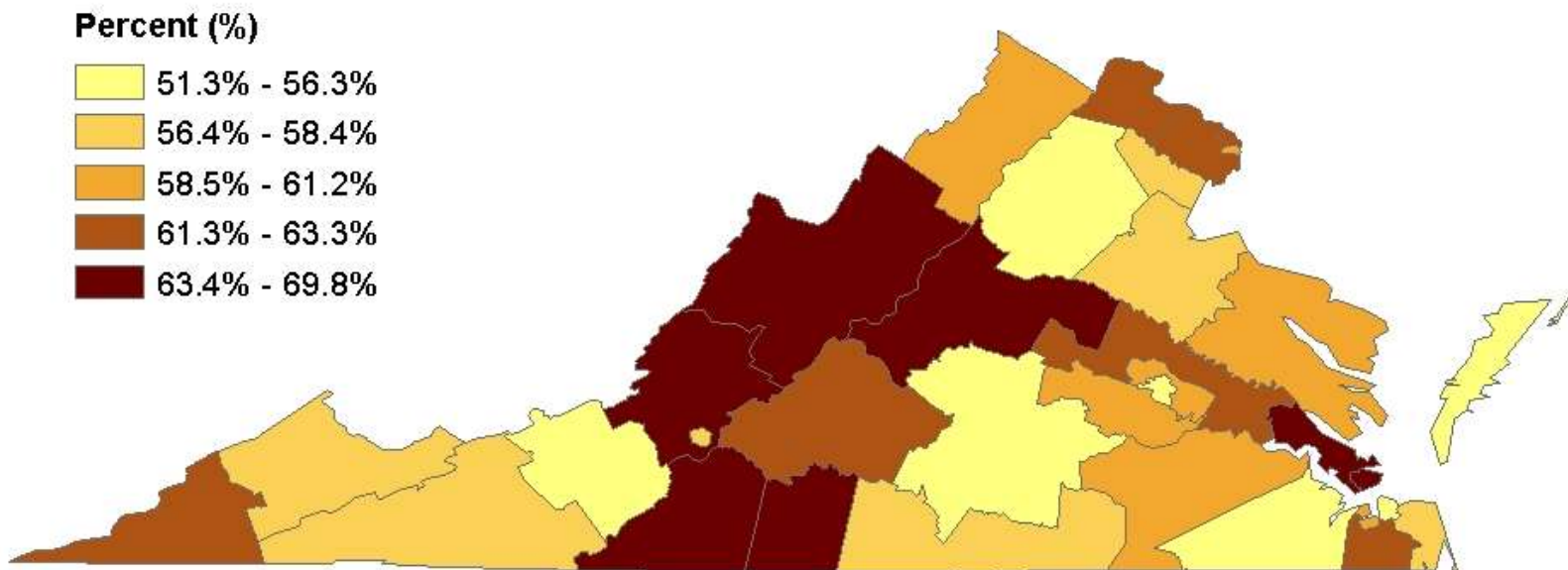
Cancer Incidence Rate by Health District, Breast (Female), Virginia, 2005-2009



Source: Virginia Cancer Registry, Virginia Department of Health.
Rates are age-adjusted to the 2000 U.S. standard population.

IV. Cancer Data By Health District

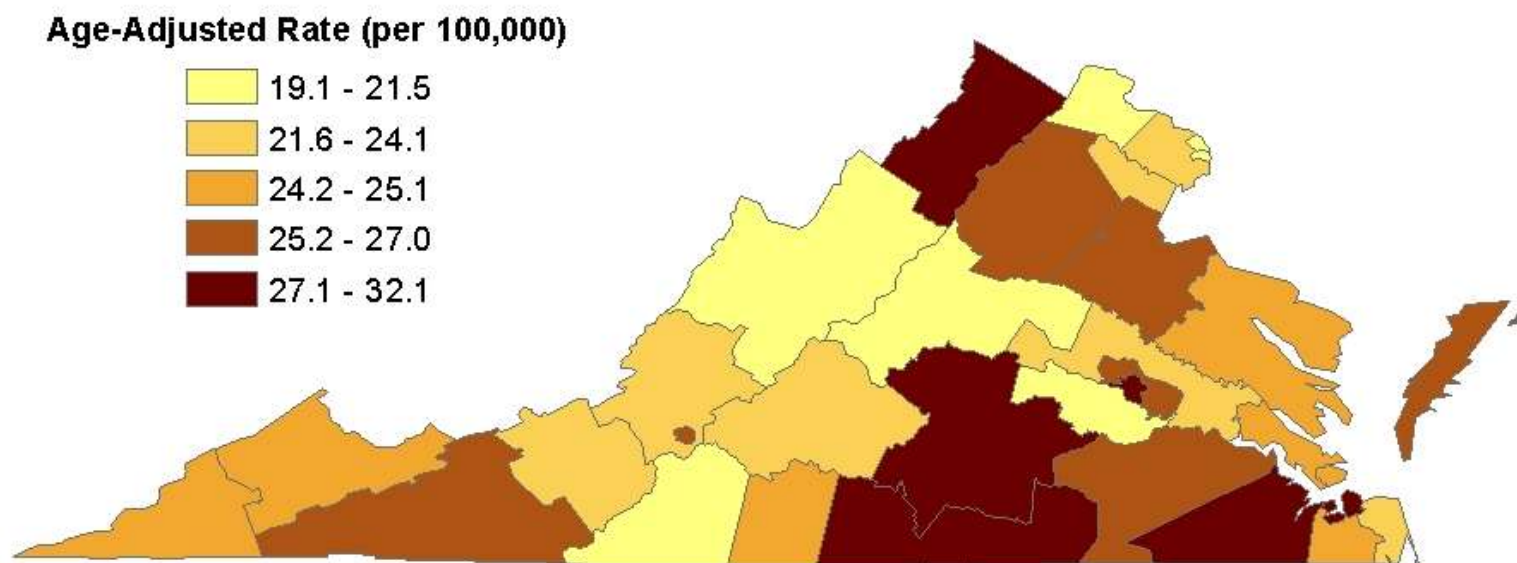
Percentage of Cancer Cases Diagnosed at Local Stage by Health District,
Breast (Female), Virginia, 2005-2009



Source: Virginia Cancer Registry, Virginia Department of Health.

IV. Cancer Data By Health District

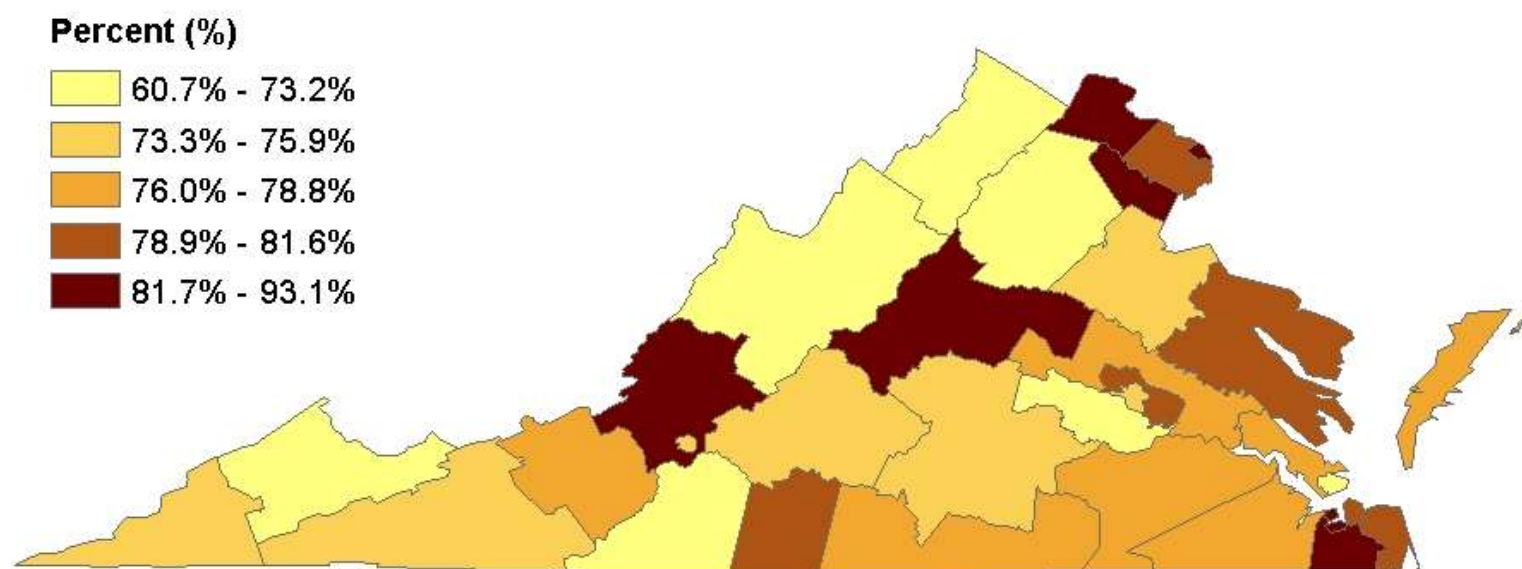
Cancer Mortality Rate by Health District, Breast (Female), Virginia, 2006-2010



Source: Division of Health Statistics, Virginia Department of Health.
Rates are age-adjusted to the 2000 U.S. standard population.

IV. Cancer Data By Health District

Mammogram in the Past Two Years by Health District,
Women 40 and Older, Virginia, 2008-2010



Source: Virginia Behavioral Risk Factor Surveillance System. Percentages are weighted.

IV. Cancer Data By Health District

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics); screening prevalence (Behavioral Risk Factor Surveillance System).

¹Based on combined 2005-2009 data. Rates are age- adjusted to the 2000 U.S. standard population. Districts are ranked in terms of incidence rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher incidence rates) are at greater risk.

² Based on combined 2005-2009 data. Percentage of Local Stage cancers are reported using the Summary Staging System. Districts are ranked in terms of percentage of cases diagnosed early (local) from lowest (=1) to highest (=35). Districts with lower rankings (i.e. lower early stage percentages) are at greater risk.

³Based on combined 2006-2010 data. Rates are age- adjusted to the 2000 U.S. standard population. Districts are ranked in terms of mortality rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher mortality rates) are at greater risk.

⁴ Behavioral Risk Factor Surveillance System is a national telephone survey of adults 18+. Breast Cancer Screening = Percent of women age 40 years and older reporting having a mammogram in past two years. Based on 2008 and 2010 data (pooled). Percentages are population-weighted. Districts are ranked in terms of prevalence of mammography from lowest (=1) to highest (=35). Districts with lower rankings (i.e. lower screening prevalence) are at greater risk.

Top five districts with the highest risk (i.e. lowest ranks) are highlighted.

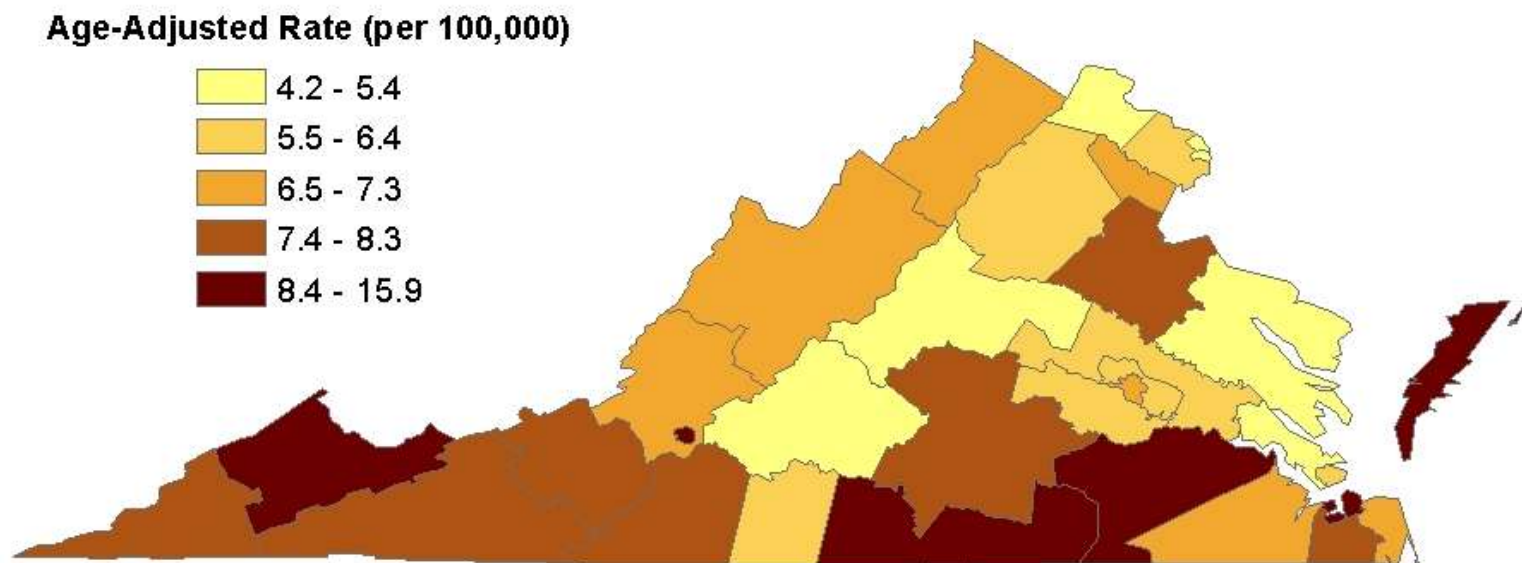
Maps illustrate rates or percentages in quantiles.

IV. Cancer Data By Health District
Cervical Cancer Data By Health District

Health District	Incidence ¹				Staging ²	Mortality ³			Cervical Cancer Screening: Pap Test ⁴		
	Count	Rate per 100,000	95% CI	Rank	Percent Local Stage	Count	Rate per 100,000	95% CI	Prevalence	95% CI	Rank
Alexandria	19	5.2	3.1 - 8.2	31	~	6	~	~	92.3%	72.1% - 98.2%	35
Alleghany	33	6.5	4.4 - 9.4	21	58%	~	~	~	90.6%	84.7% - 94.3%	30
Arlington	21	4.2	2.5 - 6.5	35	52%	~	~	~	87.2%	76.9% - 93.3%	23
Central Shenandoah	50	7.3	5.4 - 9.7	15	56%	14	~	~	86.0%	71.1% - 93.9%	21
Central Virginia	34	5.1	3.5 - 7.1	33	53%	15	~	~	72.6%	58.9% - 83.1%	2
Chesapeake	44	7.9	5.7 - 10.6	11	32%	15	~	~	91.2%	81.6% - 96.0%	32
Chesterfield	47	5.5	4.0 - 7.4	28	60%	10	~	~	82.4%	64.7% - 92.3%	13
Chickahominy	25	6.4	4.1 - 9.6	22	~	8	~	~	91.7%	81.8% - 96.4%	34
Crater	35	8.9	6.2 - 12.5	7	46%	~	~	~	80.1%	62.6% - 90.6%	7
Cumberland Plateau	31	10.0	6.7 - 14.4	4	35%	9	~	~	81.0%	70.3% - 88.5%	9
Eastern Shore	21	15.9	9.5 - 24.7	1	~	~	~	~	84.6%	74.5% - 91.2%	17
Fairfax	164	6.0	5.1 - 7.0	24	52%	42	1.4	1.0 - 1.8	84.9%	68.5% - 93.6%	18
Hampton	23	6.4	4.0 - 9.6	23	61%	6	~	~	83.7%	73.3% - 90.6%	15
Henrico	48	5.9	4.3 - 7.8	25	54%	24	~	~	85.4%	74.0% - 92.3%	19
Lenowisco	19	8.3	4.9 - 13.0	8	~	8	~	~	87.3%	80.1% - 92.1%	24
Lord Fairfax	38	6.9	4.8 - 9.5	18	34%	13	~	~	83.5%	74.2% - 89.9%	14
Loudoun	36	5.3	3.6 - 7.5	30	67%	9	~	~	82.1%	60.2% - 93.3%	12
Mount Rogers	41	7.8	5.5 - 10.8	13	56%	10	~	~	67.9%	54.5% - 78.9%	1
New River	30	8.0	5.4 - 11.5	9	63%	17	~	~	86.7%	78.8% - 92.0%	22
Norfolk	53	9.9	7.4 - 13.0	5	34%	24	~	~	85.7%	77.9% - 91.1%	20
Peninsula	45	5.2	3.8 - 6.9	32	60%	15	~	~	81.0%	66.3% - 90.3%	10
Piedmont	22	8.0	4.9 - 12.4	10	55%	9	~	~	82.0%	67.4% - 90.9%	11
Pittsylvania/Danville	20	5.6	3.4 - 8.9	27	~	7	~	~	73.7%	61.4% - 83.2%	3
Portsmouth	27	10.0	6.5 - 14.7	3	44%	12	~	~	90.6%	82.1% - 95.3%	31
Prince William	66	6.8	5.2 - 8.7	19	45%	22	~	~	80.5%	53.1% - 93.7%	8
Rappahannock	61	7.9	6.0 - 10.1	12	51%	22	~	~	88.6%	82.0% - 93.0%	26
Rappahannock/Rapidan	26	5.6	3.7 - 8.3	26	~	~	~	~	78.4%	66.4% - 86.9%	5
Richmond City	37	7.1	4.9 - 9.8	17	49%	16	~	~	90.4%	83.0% - 94.8%	28
Roanoke	29	11.5	7.6 - 16.7	2	55%	8	~	~	80.0%	66.7% - 88.9%	6
Southside	22	9.1	5.5 - 14.2	6	~	13	~	~	87.8%	80.0% - 92.8%	25
Thomas Jefferson	32	5.4	3.7 - 7.7	29	47%	10	~	~	89.7%	81.8% - 94.4%	27
Three Rivers	18	4.8	2.7 - 7.7	34	~	11	~	~	84.1%	74.4% - 90.6%	16
Virginia Beach	73	6.7	5.2 - 8.4	20	49%	29	2.5	1.6 - 3.4	90.5%	84.1% - 94.5%	29
West Piedmont	30	7.3	4.8 - 10.6	14	37%	11	~	~	74.3%	56.3% - 86.6%	4
Western Tidewater	29	7.2	4.8 - 10.4	16	48%	9	~	~	91.3%	84.4% - 95.3%	33
VIRGINIA	1,349	6.6	6.3 - 7.0		49%	449	2.1	1.9 - 2.3	84.2%	81.6% - 86.5%	

IV. Cancer Data By Health District

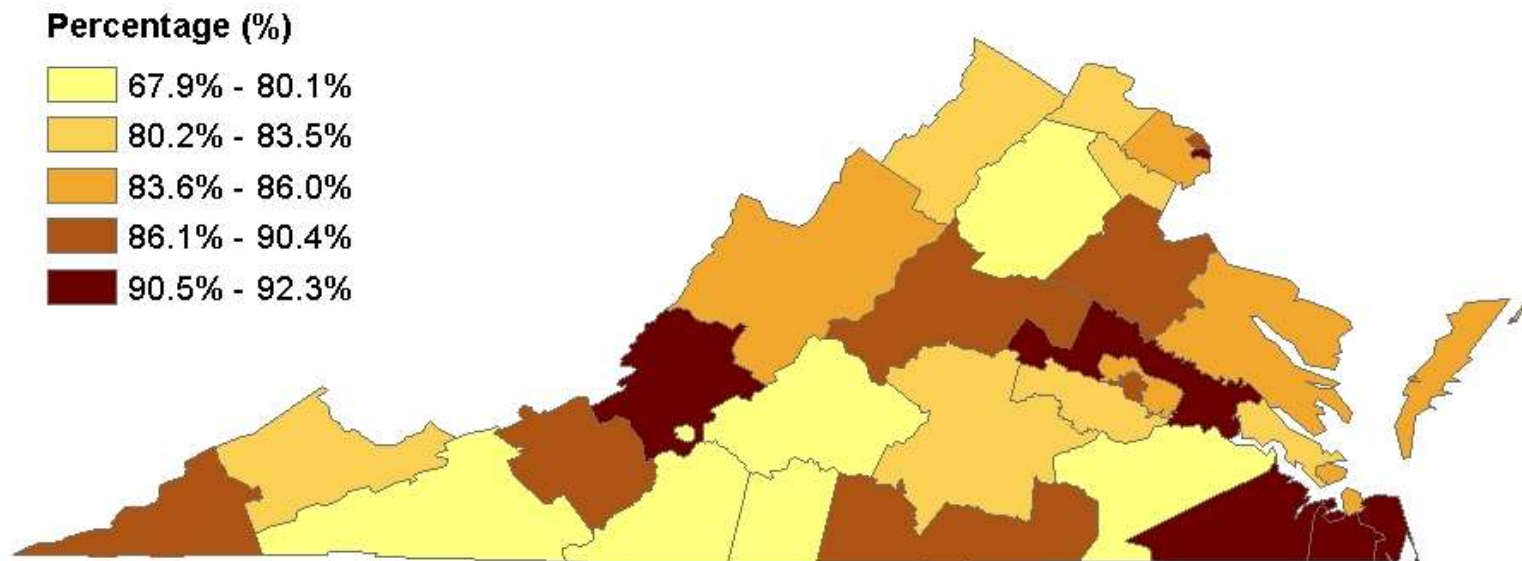
Cancer Incidence Rate by Health District, Cervix, Virginia, 2005-2009



Source: Virginia Cancer Registry, Virginia Department of Health.
Rates are age-adjusted to the 2000 U.S. standard population.

IV. Cancer Data By Health District

Pap Smear in the Past Three Years by Health District, Women 18 and Older, Virginia, 2008-2010



Source: Virginia Behavioral Risk Factor Surveillance System. Percentages are weighted.

IV. Cancer Data By Health District

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics); screening prevalence (Behavioral Risk Factor Surveillance System).

¹Based on combined 2005-2009 data. Rates are age- adjusted to the 2000 U.S. standard population. Districts are ranked in terms of incidence rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher incidence rates) are at greater risk.

²Based on combined 2005-2009 data. Percentage of Local Stage cancers are reported using the Summary Staging System. Districts are ranked in terms of percentage of cases diagnosed early (local) from lowest (=1) to highest (=35). Districts with lower rankings (i.e. lower early stage percentages) are at greater risk.

³Based on combined 2006-2010 data. Rates are age- adjusted to the 2000 U.S. standard population. Districts are ranked in terms of mortality rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher mortality rates) are at greater risk.

~Incidence count is not reported if >0 and <11. Incidence rate is not reported if fewer than 16 cases. Percent local stage is not reported if reflects a count >0 and <11. Mortality rate is not reported if 25 or fewer deaths. Death count is not reported if >0 and <5.

⁴Behavioral Risk Factor Surveillance System is a national telephone survey of adults 18+. Estimates are based on 2008 and 2010 (pooled) data. Percentages are population-weighted. Cervical Cancer Screening = Percentage of women age 18 years and older reporting having a Pap test in past three years. Women who had a hysterectomy are excluded. Districts are ranked in terms of prevalence of Pap test from lowest (=1) to highest (=35). District with lower rankings (i.e. lower Pap screening prevalence) are at greater risk. Maps illustrate rates or percentages in quantiles. Staging and mortality maps for cervical cancer are not presented due to low numbers.

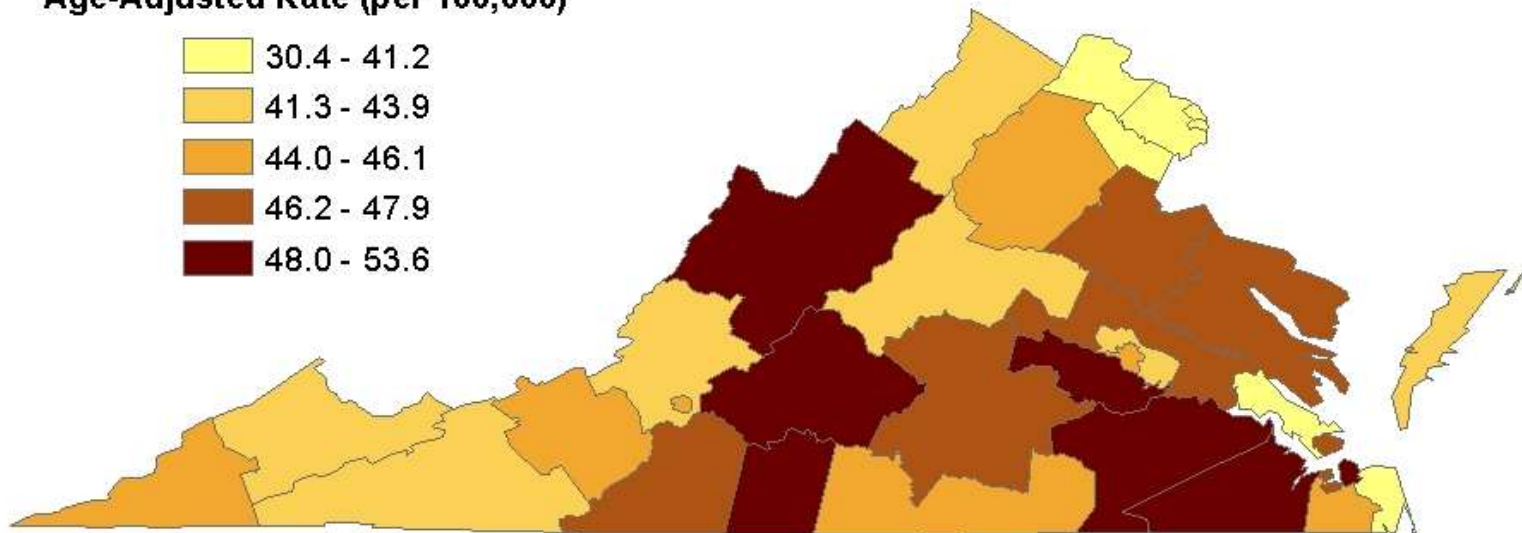
IV. Cancer Data By Health District
Colorectal Cancer Data By Health District

Health District	Incidence ¹				Staging ²		Mortality ³				Cancer Screening ⁴		
	Count	Rate per 100,000	95% CI	Rank	Percent Local Stage	Rank	Count	Rate per 100,000	95% CI	Rank	Colon Cancer Screening (comb.) Prevalence	95% CI	Rank
Alexandria	210	30.4	26.4 - 34.9	35	40%	17	79	11.9	9.3 - 14.5	33	73.7%	62.2% - 82.7%	35
Alleghany	471	41.8	38.1 - 45.8	27	38%	10	183	15.9	13.6 - 18.2	27	70.2%	63.1% - 76.5%	31
Arlington	302	35.4	31.4 - 39.8	34	33%	1	94	11.0	8.8 - 13.3	35	66.6%	56.7% - 75.3%	27
Central Shenandoah	762	48.3	44.9 - 51.9	6	39%	14	273	16.6	14.6 - 18.6	23	60.9%	52.7% - 68.5%	16
Central Virginia	763	52.4	48.7 - 56.3	2	42%	27	271	18.0	15.8 - 20.1	12	61.3%	53.4% - 68.7%	18
Chesapeake	442	46.0	41.7 - 50.6	17	42%	25	179	19.1	16.3 - 21.9	5	71.4%	62.8% - 78.7%	32
Chesterfield	647	48.1	44.2 - 52.1	7	35%	2	275	20.2	17.9 - 22.6	3	60.2%	51.3% - 68.6%	14
Chickahominy	366	47.9	43.0 - 53.2	8	36%	5	115	15.7	12.8 - 18.5	29	64.5%	56.5% - 71.8%	22
Crater	412	50.9	46.0 - 56.1	3	39%	16	164	20.4	17.2 - 23.5	2	57.8%	50.0% - 65.2%	7
Cumberland Plateau	313	43.9	39.1 - 49.2	22	39%	15	116	16.0	13.1 - 18.9	26	50.9%	42.9% - 58.8%	1
Eastern Shore	148	42.5	35.8 - 50.2	25	35%	3	62	17.3	13.0 - 21.6	18	59.8%	52.1% - 67.0%	10
Fairfax	1,652	35.5	33.8 - 37.3	33	41%	21	523	11.7	10.7 - 12.7	34	72.5%	63.3% - 80.0%	33
Hampton	322	47.5	42.4 - 53.0	10	45%	31	126	18.6	15.4 - 21.9	9	66.9%	58.0% - 74.7%	28
Henrico	636	42.4	39.2 - 45.9	26	40%	19	254	16.0	14.1 - 18.0	25	62.1%	53.2% - 70.3%	19
Lenowisco	249	45.5	40.0 - 51.6	18	41%	23	98	17.3	13.8 - 20.7	19	51.1%	42.9% - 59.3%	2
Lord Fairfax	528	43.7	40.0 - 47.6	24	35%	4	214	17.5	15.2 - 19.8	16	55.5%	47.5% - 63.2%	5
Loudoun	327	37.5	33.3 - 42.2	32	37%	7	134	16.7	13.9 - 19.5	22	58.6%	46.8% - 69.5%	9
Mount Rogers	570	43.8	40.3 - 47.7	23	37%	8	217	16.3	14.1 - 18.4	24	53.5%	45.3% - 61.5%	3
New River	386	46.1	41.6 - 51.0	15	46%	32	160	18.8	15.9 - 21.7	8	59.8%	51.7% - 67.4%	11
Norfolk	482	49.3	45.0 - 54.0	5	42%	26	183	18.2	15.6 - 20.9	10	67.0%	58.9% - 74.2%	29
Peninsula	675	39.0	36.1 - 42.1	31	43%	29	244	14.1	12.4 - 15.9	31	65.2%	57.2% - 72.5%	23
Piedmont	294	47.3	42.0 - 53.1	11	40%	20	119	18.9	15.5 - 22.3	7	63.4%	55.4% - 70.8%	21
Pittsylvania/Danville	377	53.6	48.2 - 59.4	1	43%	30	130	17.9	14.8 - 20.9	13	60.9%	52.6% - 68.6%	17
Portsmouth	241	46.5	40.7 - 52.8	14	40%	18	106	19.9	16.1 - 23.7	4	67.1%	58.6% - 74.7%	30
Prince William	552	41.2	37.5 - 45.1	29	41%	22	206	15.8	13.6 - 17.9	28	72.5%	60.8% - 81.8%	34
Rappahannock	583	47.2	43.3 - 51.3	12	39%	13	211	17.6	15.3 - 20.0	14	60.4%	51.8% - 68.5%	15
Rappahannock/Rapidan	393	44.3	39.9 - 49.0	21	49%	35	153	17.5	14.7 - 20.3	15	54.6%	46.5% - 62.5%	4
Richmond City	489	45.2	41.3 - 49.5	20	41%	24	201	18.2	15.6 - 20.7	11	58.4%	49.5% - 66.8%	8
Roanoke	268	45.5	40.1 - 51.5	19	43%	28	110	17.4	14.2 - 20.7	17	62.6%	54.3% - 70.2%	20
Southside	267	46.0	40.5 - 52.1	16	37%	6	101	16.8	13.5 - 20.1	21	56.1%	48.4% - 63.4%	6
Thomas Jefferson	512	41.4	37.9 - 45.2	28	48%	34	190	15.2	13.0 - 17.3	30	60.1%	51.8% - 67.8%	12
Three Rivers	478	46.7	42.6 - 51.2	13	37%	9	192	19.0	16.3 - 21.7	6	65.3%	58.1% - 72.0%	24
Virginia Beach	781	41.1	38.3 - 44.2	30	38%	12	236	12.4	10.8 - 14.0	32	66.1%	58.1% - 73.3%	26
West Piedmont	443	47.8	43.4 - 52.6	9	48%	33	161	17.0	14.4 - 19.6	20	60.1%	52.3% - 67.4%	13
Western Tidewater	375	50.3	45.3 - 55.8	4	38%	11	159	21.4	18.1 - 24.7	1	65.8%	57.5% - 73.3%	25
VIRGINIA	16,716	43.1	42.5 - 43.8		40%		6,239	15.9	15.6 - 16.3		63.2%	61.5% - 64.9%	

IV. Cancer Data By Health District

Cancer Incidence Rate by Health District, Colon and Rectum, Virginia, 2005-2009

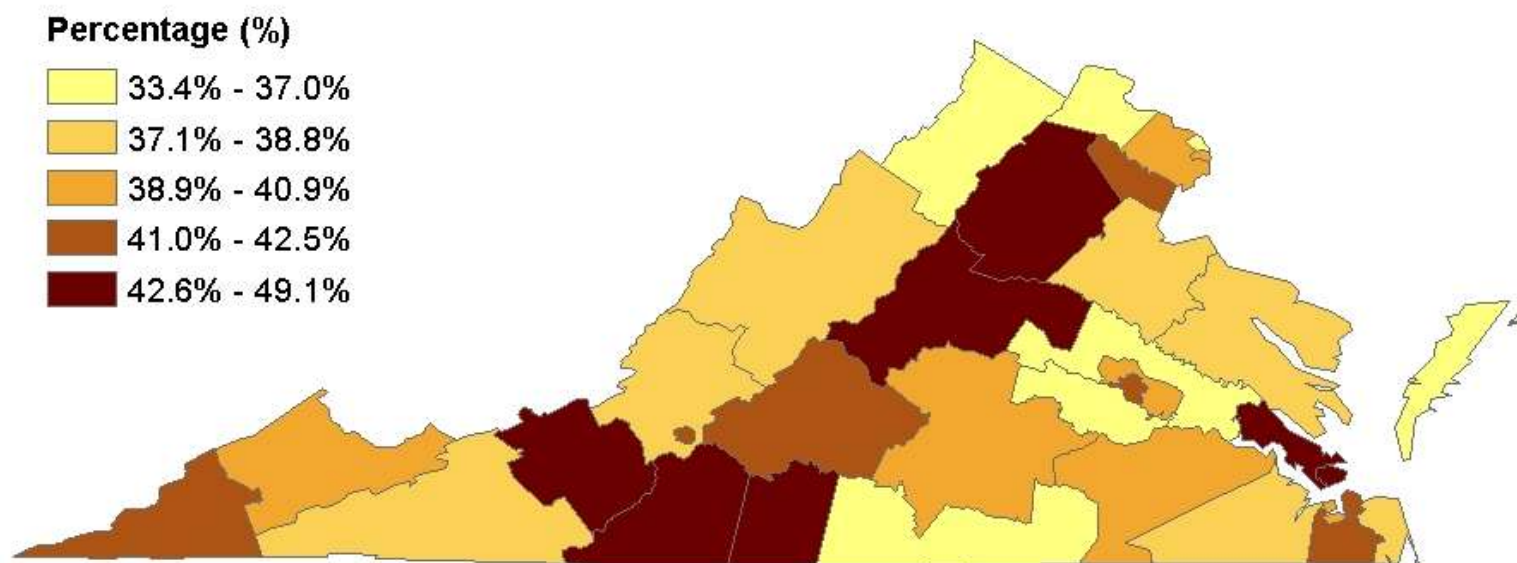
Age-Adjusted Rate (per 100,000)



Source: Virginia Cancer Registry, Virginia Department of Health.
Rates are age-adjusted to the 2000 U.S. standard population.

IV. Cancer Data By Health District

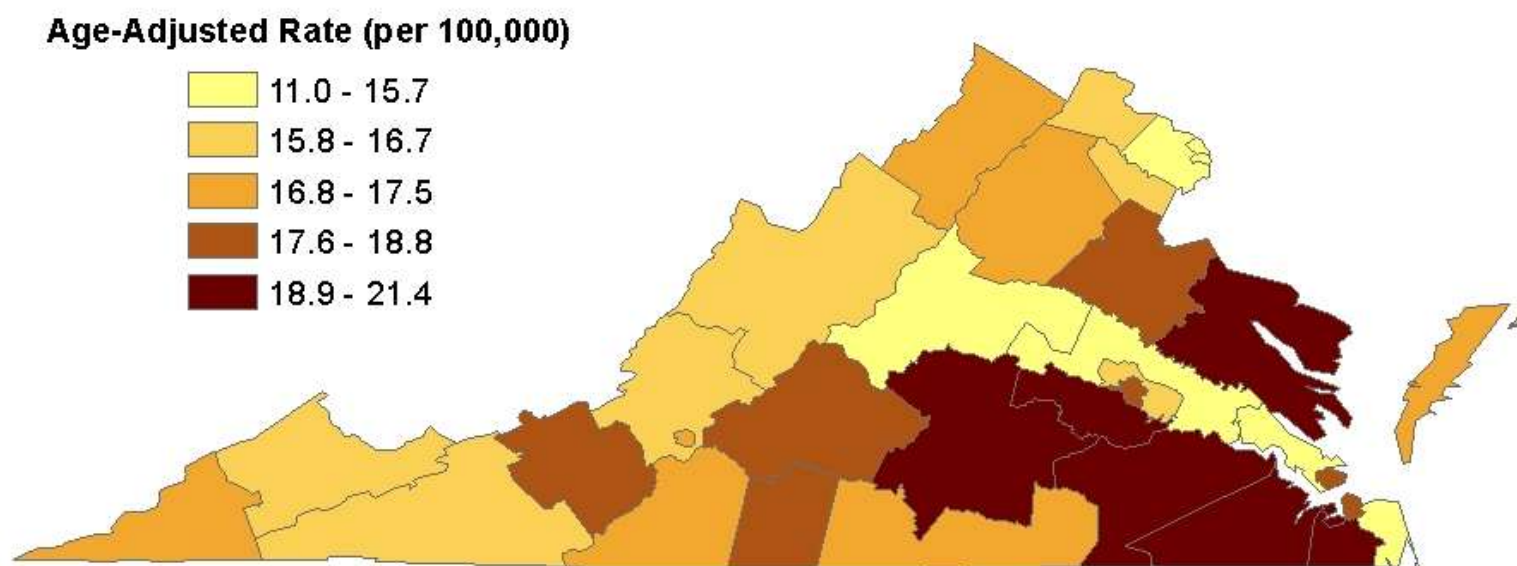
Percentage of Colon and Rectum Cancer Cases Diagnosed at Local Stage
by Health District, Virginia, 2005-2009



Source: Virginia Cancer Registry, Virginia Department of Health.

IV. Cancer Data By Health District

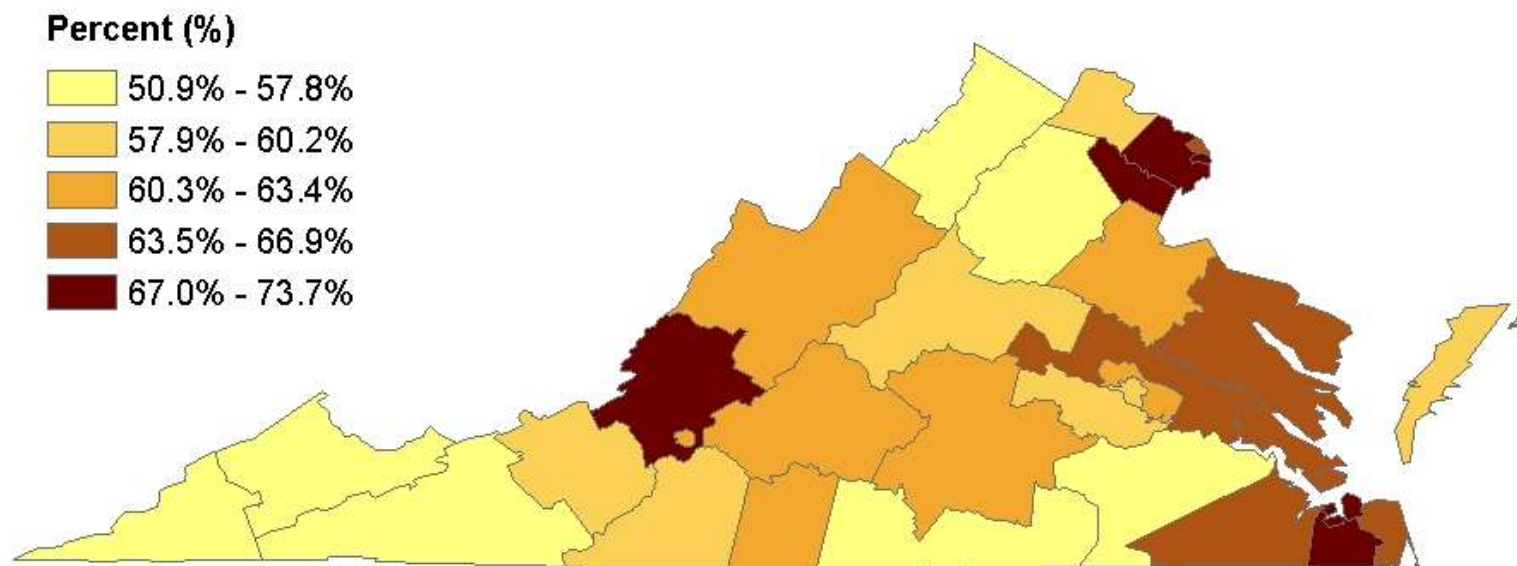
Cancer Mortality Rate by Health District, Colon and Rectum, Virginia, 2006-2010



Source: Division of Health Statistics, Virginia Department of Health.
Rates are age-adjusted to the 2000 U.S. standard population.

IV. Cancer Data By Health District

Colorectal Cancer Screening by Health District, Adults 50 and Older, Virginia, 2008-2010



Source: Virginia Behavioral Risk Factor Surveillance System. Percentages are weighted.
"Colorectal cancer screening" refers to adults 50 and older who had either endoscopy (sigmoidoscopy, colonoscopy) within the past five years or a home blood stool test in the past year.

IV. Cancer Data By Health District

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics); screening prevalence (Behavioral Risk Factor Surveillance System).

¹Based on combined 2005-2009 data. Rates are age- adjusted to the 2000 U.S. standard population. Districts are ranked in terms of incidence rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher incidence rates) are at greater risk.

²Based on combined 2005-2009 data. Percentage of Local Stage cancers are reported using the Summary Staging System. Districts are ranked in terms of percentage of cases diagnosed early (local) from lowest (=1) to highest (=35). Districts with lower rankings (i.e. lower early stage percentages) are at greater risk.

³Based on combined 2006-2010 data. Rates are age- adjusted to the 2000 U.S. standard population. Districts are ranked in terms of mortality rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher mortality rates) are at greater risk.

⁴Behavioral Risk Factor Surveillance System is a national telephone survey of adults 18+. Colorectal cancer screening = Percentage of adults 50 and older who reported having a sigmoidoscopy/colonoscopy within the past 5 years and/or a home blood stool test within the past year. Based on 2008 and 2010 data (pooled). Percentages are population-weighted. Districts are ranked in terms of prevalence of colorectal screening from lowest (=1) to highest (=35). Districts with lower rankings (i.e. lower screening prevalence) are at greater risk.

Top five districts with the highest risk (i.e. lowest ranks) are highlighted.

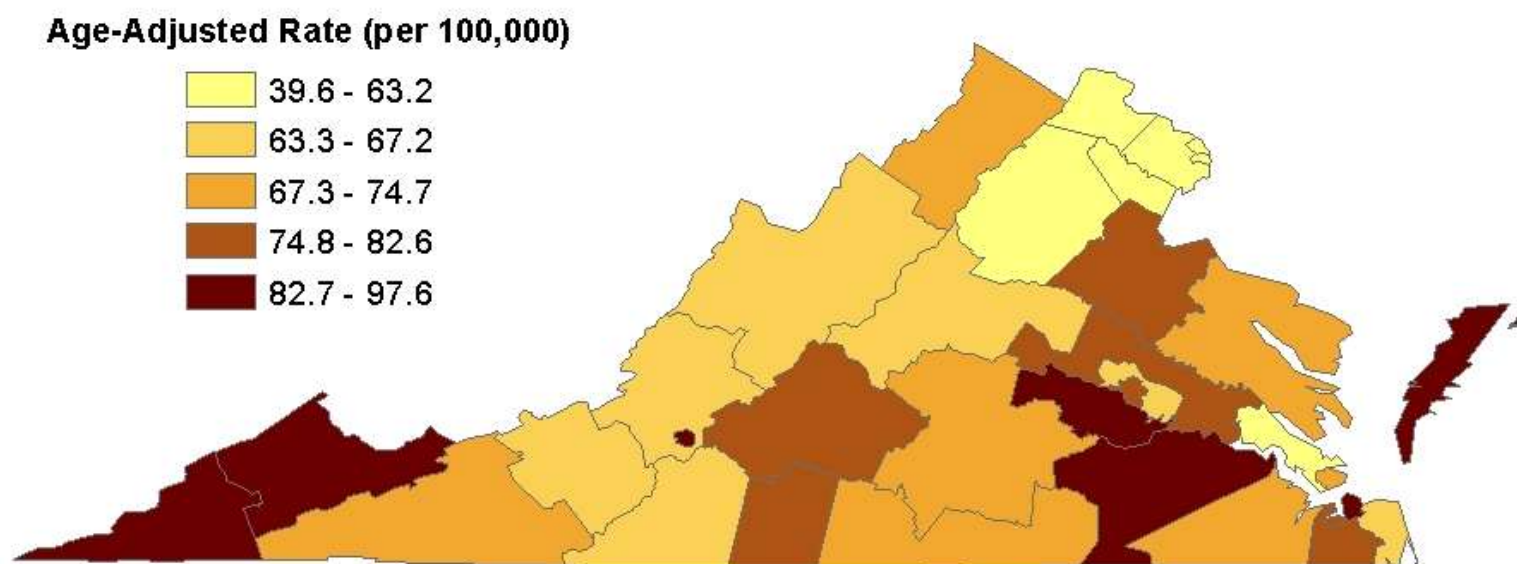
Maps illustrate rates or percentages in quantiles.

IV. Cancer Data By Health District
Lung and Bronchus Cancer Data By Health District

Health District	Incidence ¹				Staging ²		Mortality ³				Risk Factor: Current Smoking ⁴		
	Count	Rate per 100,000	95% CI	Rank	Percent Local Stage	Rank	Count	Rate per 100,000	95% CI	Rank	Prevalence	95% CI	Rank
Alexandria	254	39.6	34.8 - 44.9	35	21%	30	173	26.3	22.4 - 30.2	35	7.4%	3.7% - 14.0%	35
Alleghany	763	67.2	62.4 - 72.2	24	17%	12	602	51.8	47.6 - 55.9	24	19.0%	13.7% - 25.9%	20
Arlington	338	41.9	37.5 - 46.8	34	16%	7	242	29.2	25.5 - 32.9	34	10.6%	7.0% - 15.7%	34
Central Shenandoah	1,065	66.1	62.1 - 70.2	26	23%	35	781	47.0	43.7 - 50.3	31	10.7%	7.8% - 14.5%	33
Central Virginia	1,201	80.4	75.9 - 85.1	9	19%	23	909	59.8	56.0 - 63.7	10	23.3%	18.7% - 28.8%	10
Chesapeake	745	78.5	72.8 - 84.4	11	22%	32	549	57.2	52.4 - 62.0	15	18.1%	13.2% - 24.2%	22
Chesterfield	1,137	84.8	79.7 - 90.2	5	16%	9	854	60.7	56.7 - 64.8	8	12.9%	9.3% - 17.5%	31
Chickahominy	563	74.7	68.5 - 81.3	14	17%	13	426	57.0	51.6 - 62.4	16	19.1%	13.2% - 26.9%	19
Crater	778	96.6	89.9 - 103.7	3	14%	1	553	68.0	62.3 - 73.6	3	19.9%	15.4% - 25.3%	16
Cumberland Plateau	613	84.0	77.4 - 91.1	6	21%	28	475	64.5	58.7 - 70.3	5	24.1%	19.2% - 29.9%	6
Eastern Shore	348	97.6	87.5 - 108.7	1	15%	4	254	72.4	63.5 - 81.3	2	23.4%	17.6% - 30.4%	9
Fairfax	1,963	45.1	43.0 - 47.2	33	20%	24	1,421	32.1	30.4 - 33.7	33	11.9%	6.7% - 20.2%	32
Hampton	504	74.0	67.6 - 80.8	16	18%	18	413	59.2	53.5 - 64.9	13	16.8%	12.9% - 21.6%	26
Henrico	977	65.9	61.8 - 70.2	27	19%	22	780	50.9	47.4 - 54.5	26	19.3%	14.5% - 25.3%	17
Lenowisco	567	97.2	89.4 - 105.7	2	17%	17	428	73.1	66.2 - 80.1	1	28.5%	21.9% - 36.0%	2
Lord Fairfax	860	70.4	65.7 - 75.3	20	18%	19	731	59.0	54.8 - 63.3	14	23.8%	18.7% - 29.6%	8
Loudoun	374	47.6	42.6 - 53.0	32	20%	26	309	38.7	34.4 - 43.0	32	13.5%	6.9% - 24.8%	30
Mount Rogers	991	74.7	70.1 - 79.5	15	22%	33	834	62.1	57.9 - 66.4	7	24.2%	19.0% - 30.4%	5
New River	540	63.5	58.2 - 69.1	28	17%	16	435	51.0	46.2 - 55.8	25	23.9%	18.4% - 30.3%	7
Norfolk	808	83.5	77.8 - 89.5	7	17%	15	579	59.3	54.5 - 64.1	12	19.3%	14.9% - 24.6%	18
Peninsula	1,091	62.7	59.1 - 66.6	30	21%	29	813	47.1	43.8 - 50.3	30	14.4%	10.6% - 19.4%	29
Piedmont	457	73.3	66.7 - 80.4	17	14%	2	355	56.0	50.2 - 61.9	19	23.0%	17.8% - 29.1%	11
Pittsylvania/Danville	562	77.7	71.3 - 84.5	12	16%	10	395	53.8	48.5 - 59.1	22	19.0%	14.2% - 24.9%	21
Portsmouth	410	79.5	72.0 - 87.6	10	15%	6	342	65.0	58.2 - 71.9	4	19.9%	14.9% - 26.1%	15
Prince William	760	61.5	56.9 - 66.3	31	18%	21	617	48.8	44.9 - 52.6	29	17.0%	11.0% - 25.4%	24
Rappahannock	985	82.6	77.4 - 88.1	8	22%	31	732	59.8	55.5 - 64.2	11	20.1%	15.2% - 26.0%	14
Rappahannock/Rapidan	572	63.2	58.0 - 68.7	29	20%	25	479	52.6	47.9 - 57.3	23	16.7%	11.8% - 23.1%	27
Richmond City	798	75.5	70.3 - 81.0	13	15%	5	645	60.1	55.5 - 64.8	9	17.5%	13.4% - 22.5%	23
Roanoke	512	87.6	80.1 - 95.7	4	16%	11	381	63.5	57.2 - 69.9	6	27.0%	20.8% - 34.2%	3
Southside	433	70.7	64.2 - 77.9	19	16%	8	347	55.8	50.0 - 61.7	20	29.4%	23.6% - 36.0%	1
Thomas Jefferson	824	66.9	62.4 - 71.7	25	21%	27	621	49.5	45.6 - 53.4	27	16.8%	12.5% - 22.3%	25
Three Rivers	757	72.6	67.5 - 78.1	18	17%	14	596	57.0	52.4 - 61.6	17	22.3%	17.8% - 27.6%	12
Virginia Beach	1,262	67.2	63.5 - 71.1	23	22%	34	937	49.0	45.8 - 52.1	28	21.8%	16.8% - 27.8%	13
West Piedmont	645	67.2	62.1 - 72.7	22	18%	20	538	55.4	50.7 - 60.0	21	24.4%	18.9% - 31.0%	4
Western Tidewater	509	68.5	62.6 - 74.8	21	15%	3	423	56.4	51.0 - 61.8	18	15.6%	11.7% - 20.7%	28
VIRGINIA	25,969	67.4	66.6 - 68.3		19%		19,969	50.9	50.2 - 51.6		18.1%	16.9% - 19.4%	

IV. Cancer Data By Health District

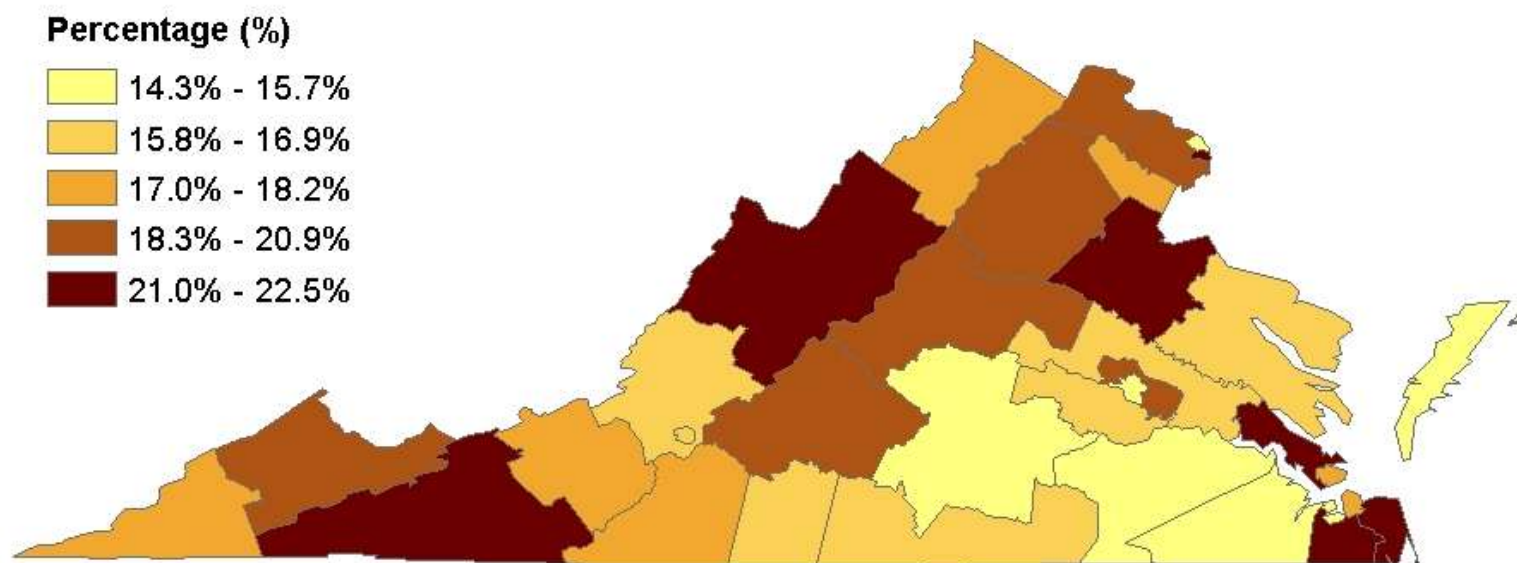
Cancer Incidence Rate by Health District, Lung and Bronchus, Virginia, 2005-2009



Source: Virginia Cancer Registry, Virginia Department of Health.
Rates are age-adjusted to the 2000 U.S. standard population.

IV. Cancer Data By Health District

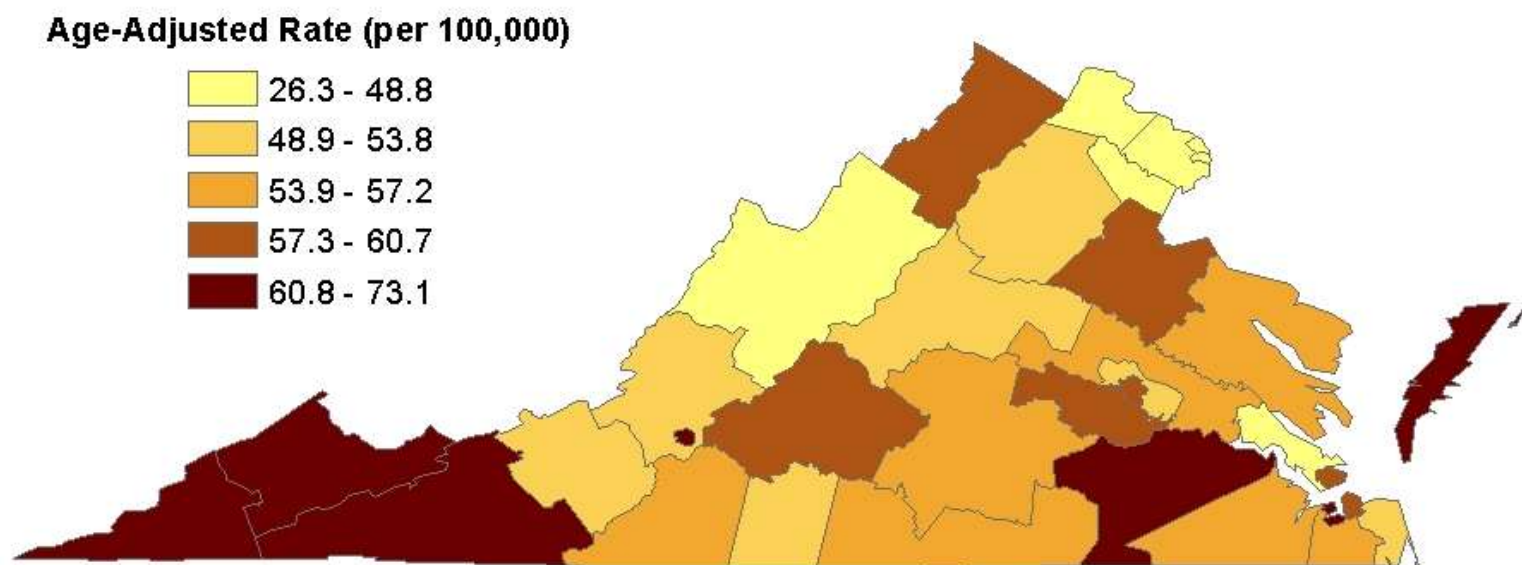
Percentage of Cancer Cases Diagnosed at Local Stage by Health District,
Lung and Bronchus, Virginia, 2005-2009



Source: Virginia Cancer Registry, Virginia Department of Health.

IV. Cancer Data By Health District

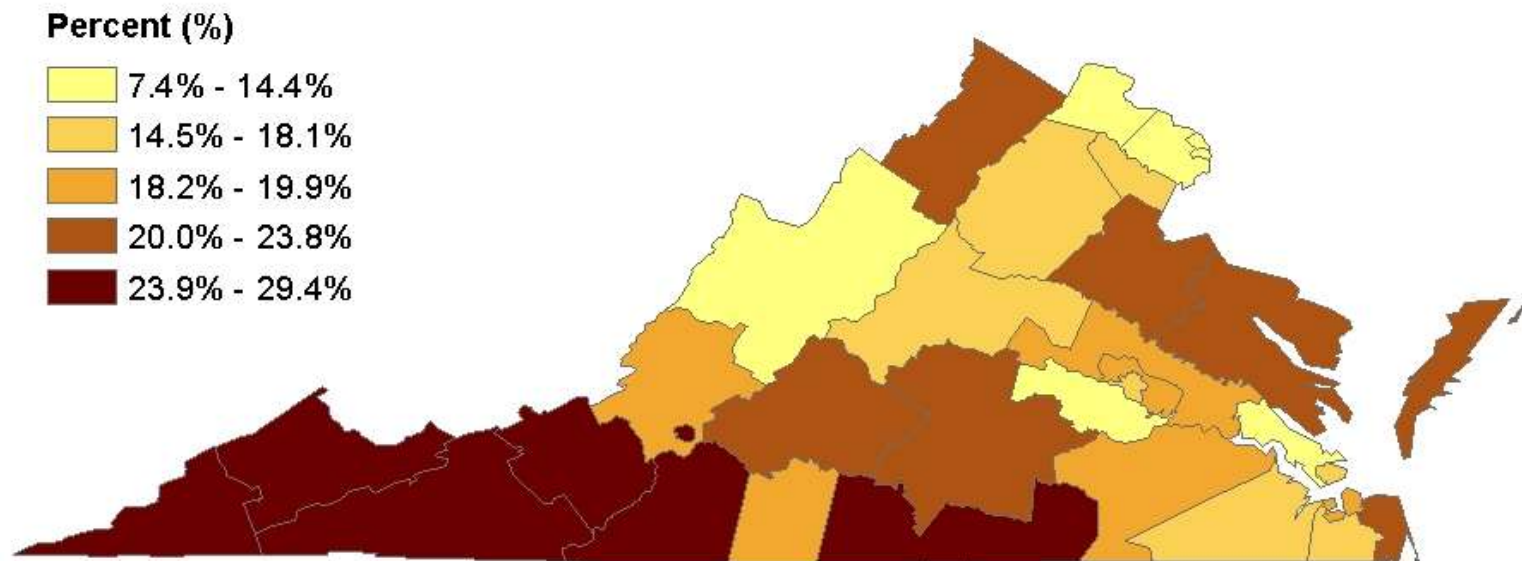
Cancer Mortality Rate by Health District, Lung and Bronchus, Virginia, 2006-2010



Source: Division of Health Statistics, Virginia Department of Health.
Rates are age-adjusted to the 2000 U.S. standard population.

IV. Cancer Data By Health District

Current Cigarette Smoking by Health District, Adults 18 and Older, Virginia, 2008-2010



Source: Virginia Behavioral Risk Factor Surveillance System. Percentages are weighted.

IV. Cancer Data By Health District

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics); screening prevalence (Behavioral Risk Factor Surveillance System).

¹Based on combined 2005-2009 data. Rates are age- adjusted to the 2000 U.S. standard population. Districts are ranked in terms of incidence rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher incidence rates) are at greater risk.

²Based on combined 2005-2009 data. Percentage of Local Stage cancers are reported using the Summary Staging System. Districts are ranked in terms of percentage of cases diagnosed early (local) from lowest (=1) to highest (=35). Districts with lower rankings (i.e. lower early stage percentages) are at greater risk.

³Based on combined 2006-2010 data. Rates are age- adjusted to the 2000 U.S. standard population. Districts are ranked in terms of mortality rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher mortality rates) are at greater risk.

⁴Behavioral Risk Factor Surveillance System is a national telephone survey of adults 18+. Estimates are based on 2008-2010 (pooled) data. Percentages are population-weighted. Current Smoking = Percentage of adults age 18 years and older reporting having smoked 100 or more cigarettes in their lifetime and currently smoking every day or some days. Districts are ranked in terms of prevalence of adult cigarette smoking from highest (=1) to lowest (=35). District with lower rankings (i.e. higher smoking prevalence) are at greater risk.

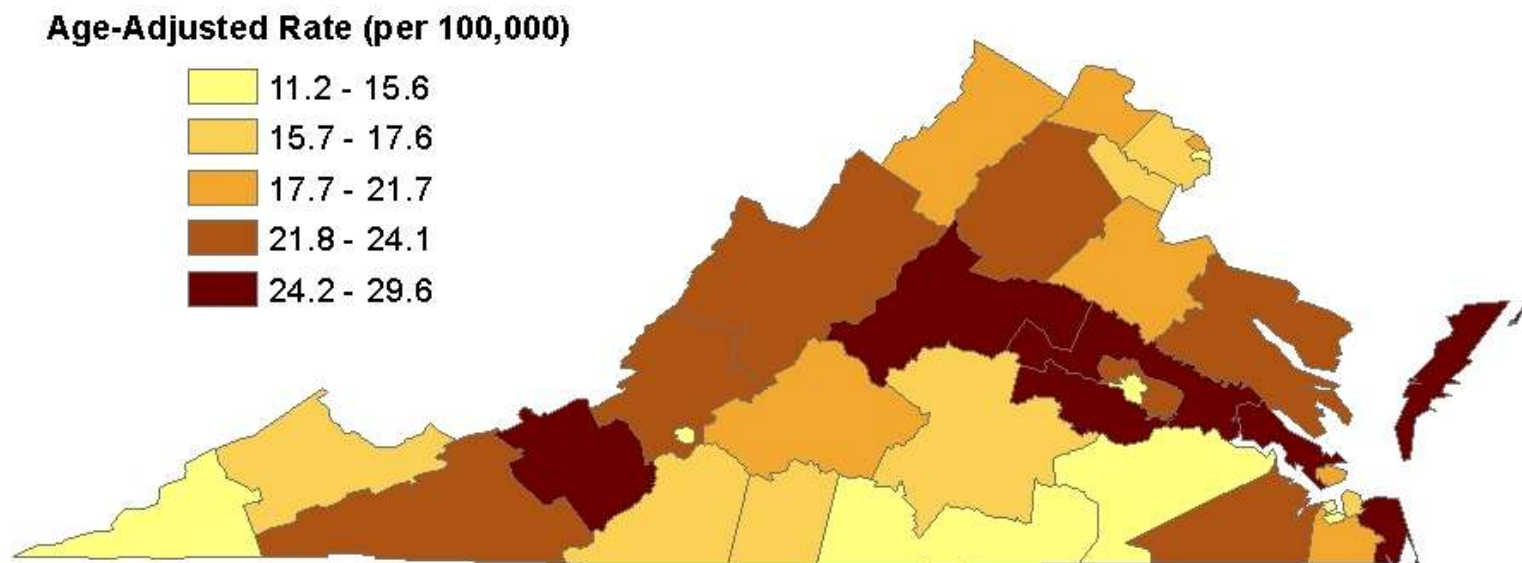
Maps illustrate rates or percentages in quantiles.

IV. Cancer Data By Health District
Melanoma Data By Health District

Health District	Incidence ¹				Staging ²		Mortality ³			Risk Factor: Sunburn ⁴		
	Count	Rate per 100,000	95% CI	Rank	Percent Local Stage	Rank	Count	Rate per 100,000	95% CI	Prevalence	95% CI	Rank
Alexandria	106	14.6	11.8 - 17.7	30	65%	9	13	~	~	26.3%	16.6% - 39.0%	29
Alleghany	239	23.4	20.4 - 26.7	10	82%	32	33	3.0	1.9 - 4.0	25.1%	17.3% - 34.9%	33
Arlington	174	18.6	15.8 - 21.7	20	52%	1	19	~	~	32.1%	20.2% - 46.8%	17
Central Shenandoah	346	22.9	20.5 - 25.5	12	63%	7	60	3.7	2.8 - 4.7	37.3%	27.7% - 47.9%	10
Central Virginia	306	21.7	19.3 - 24.3	15	80%	30	44	3.0	2.1 - 4.0	30.4%	20.9% - 41.9%	20
Chesapeake	205	19.7	17.0 - 22.6	19	64%	8	26	2.5	1.5 - 3.4	28.7%	19.0% - 40.8%	23
Chesterfield	433	28.7	25.9 - 31.7	3	79%	26	61	4.0	3.0 - 5.0	35.0%	25.3% - 46.2%	12
Chickahominy	189	24.6	21.1 - 28.5	7	80%	28	18	~	~	39.3%	29.6% - 49.8%	7
Crater	111	13.8	11.3 - 16.6	31	68%	11	18	~	~	29.7%	20.2% - 41.3%	21
Cumberland Plateau	106	16.1	13.1 - 19.6	28	78%	23	20	~	~	33.2%	23.5% - 44.6%	15
Eastern Shore	80	24.8	19.5 - 31.3	6	76%	17	10	~	~	27.3%	18.1% - 38.9%	28
Fairfax	867	17.5	16.4 - 18.8	23	57%	3	134	2.9	2.4 - 3.4	25.8%	16.6% - 37.9%	32
Hampton	145	20.8	17.6 - 24.5	17	83%	34	10	~	~	30.8%	20.1% - 44.0%	19
Henrico	359	24.1	21.6 - 26.7	8	79%	27	51	3.4	2.4 - 4.3	32.5%	23.2% - 43.5%	16
Lenowisco	61	11.2	8.5 - 14.5	35	72%	15	17	~	~	41.7%	31.6% - 52.6%	3
Lord Fairfax	233	19.7	17.2 - 22.4	18	58%	4	49	4.0	2.9 - 5.2	38.4%	28.2% - 49.8%	8
Loudoun	224	21.2	18.3 - 24.5	16	55%	2	22	~	~	44.1%	33.3% - 55.5%	2
Mount Rogers	265	22.8	20.1 - 25.8	13	78%	21	48	3.9	2.8 - 5.1	39.7%	29.7% - 50.6%	5
New River	207	25.4	22.0 - 29.2	5	76%	18	38	4.3	3.0 - 5.7	37.4%	27.2% - 48.9%	9
Norfolk	166	16.2	13.8 - 18.9	27	69%	12	23	~	~	28.2%	18.3% - 40.7%	26
Peninsula	497	28.7	26.2 - 31.4	3	78%	22	61	3.6	2.7 - 4.5	31.1%	21.4% - 42.9%	18
Piedmont	102	17.6	14.3 - 21.4	22	83%	33	20	~	~	25.9%	16.7% - 37.8%	31
Pittsylvania/Danville	104	17.0	13.7 - 20.7	26	79%	25	19	~	~	28.9%	19.3% - 40.9%	22
Portsmouth	60	11.8	9.0 - 15.2	33	58%	5	13	~	~	28.3%	19.2% - 39.5%	25
Prince William	288	17.4	15.3 - 19.7	25	60%	6	44	3.2	2.3 - 4.2	39.9%	26.9% - 54.5%	4
Rappahannock	255	18.5	16.2 - 21.0	21	69%	13	48	3.7	2.6 - 4.7	44.8%	33.1% - 57.1%	1
Rappahannock/Rapidan	201	22.2	19.2 - 25.5	14	67%	10	38	4.1	2.8 - 5.5	35.5%	27.0% - 45.1%	11
Richmond City	140	13.6	11.4 - 16.2	32	84%	35	18	~	~	20.7%	12.3% - 32.8%	35
Roanoke	88	15.6	12.4 - 19.3	29	78%	24	11	~	~	26.1%	16.8% - 38.0%	30
Southside	62	11.5	8.7 - 15.0	34	71%	14	14	~	~	34.1%	23.6% - 46.4%	13
Thomas Jefferson	350	29.5	26.4 - 32.8	2	81%	31	39	3.2	2.2 - 4.3	33.6%	24.7% - 43.9%	14
Three Rivers	214	23.1	20.0 - 26.6	11	77%	19	33	3.3	2.2 - 4.5	28.3%	18.7% - 40.4%	24
Virginia Beach	584	29.6	27.2 - 32.1	1	74%	16	69	3.5	2.7 - 4.4	25.1%	16.9% - 35.4%	34
West Piedmont	152	17.4	14.7 - 20.6	24	78%	20	22	~	~	27.9%	18.8% - 39.2%	27
Western Tidewater	176	23.4	20.0 - 27.2	9	80%	29	20	~	~	39.5%	30.2% - 49.6%	6
VIRGINIA	8,099	20.7	20.2 - 21.1		71%		1,183	3.0	2.8 - 3.2	32.4%	30.2% - 34.7%	

IV. Cancer Data By Health District

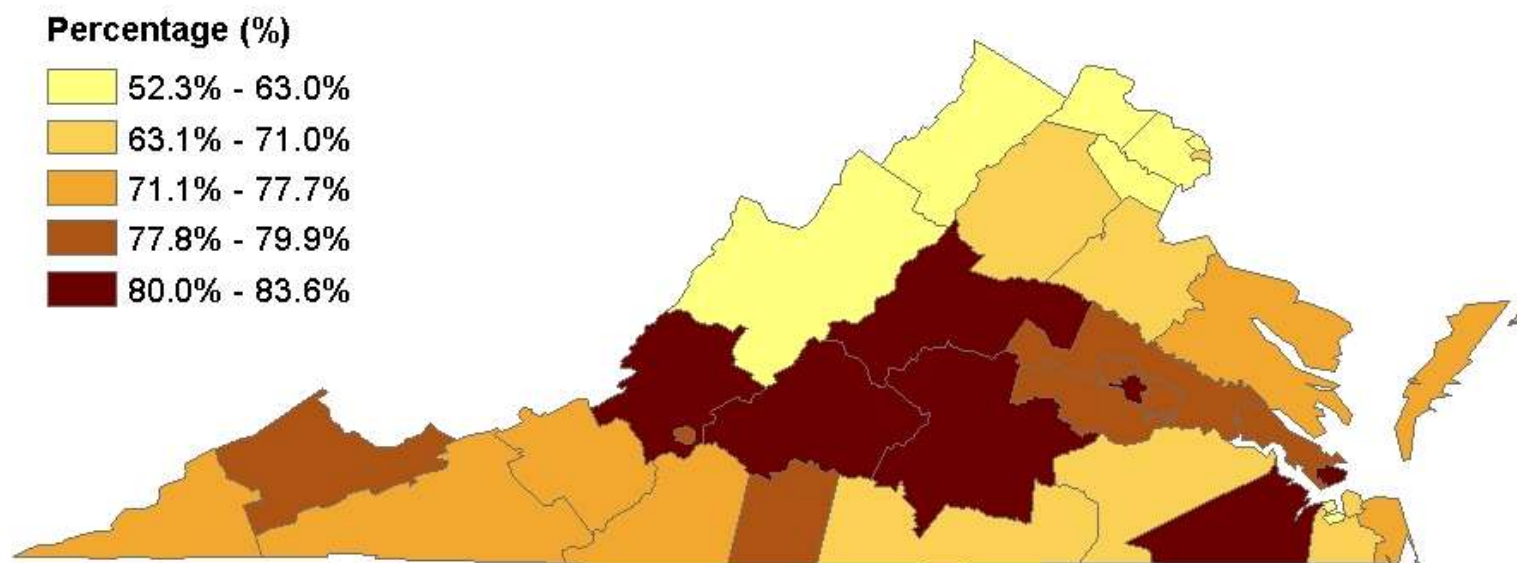
Cancer Incidence Rate by Health District, Melanoma, Virginia, 2005-2009



Source: Virginia Cancer Registry, Virginia Department of Health.
Rates are age-adjusted to the 2000 U.S. standard population.

IV. Cancer Data By Health District

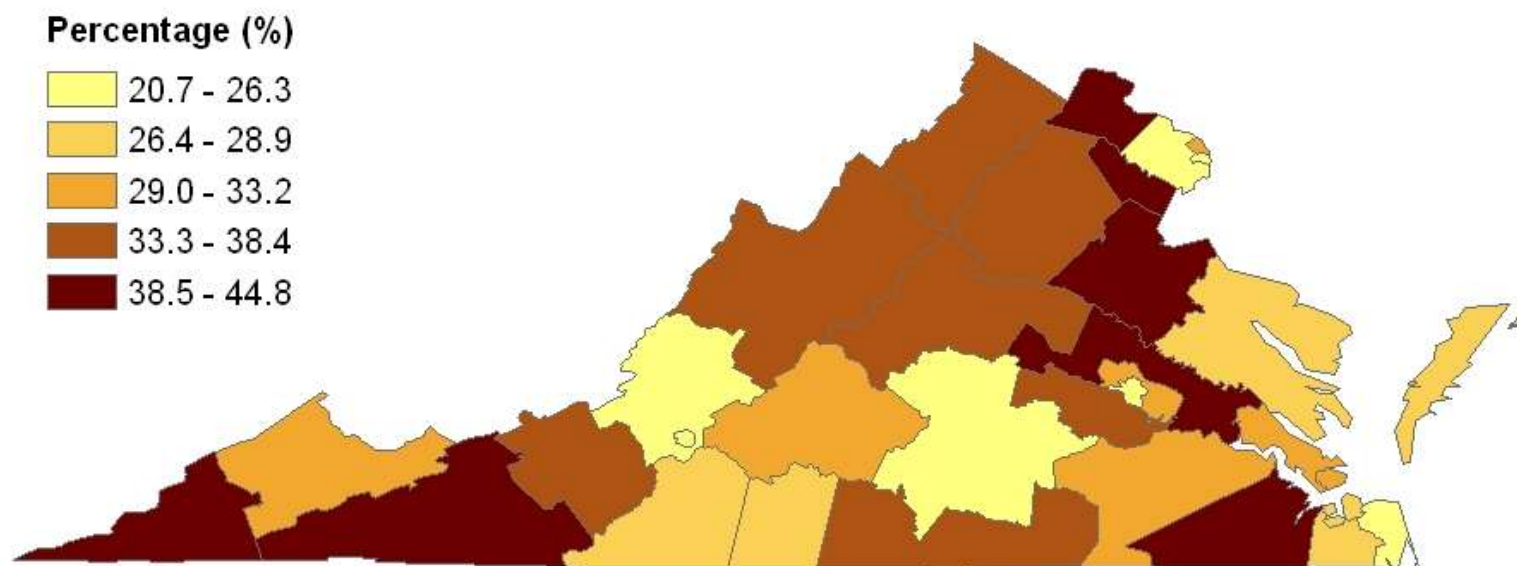
Percentage of Cancer Cases Diagnosed at Local Stage by Health District,
Melanoma, Virginia, 2005-2009



Source: Virginia Cancer Registry, Virginia Department of Health.

IV. Cancer Data By Health District

Previous Sunburn in the Past Twelve Months by Health District,
Adults 18 and Older, Virginia, 2007



Source: Virginia Behavioral Risk Factor Surveillance System. Percentages are weighted.

IV. Cancer Data By Health District

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics); screening prevalence (Behavioral Risk Factor Surveillance System).

¹Based on combined 2005-2009 data. Rates are age- adjusted to the 2000 U.S. standard population. Districts are ranked in terms of incidence rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher incidence rates) are at greater risk.

² Based on combined 2005-2009 data. Percentage of Local Stage cancers are reported using the Summary Staging System. Districts are ranked in terms of percentage of cases diagnosed early (local) from lowest (=1) to highest (=35). Districts with lower rankings (i.e. lower early stage percentages) are at greater risk.

³Based on combined 2006-2010 data. Rates are age- adjusted to the 2000 U.S. standard population. Districts are ranked in terms of mortality rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher mortality rates) are at greater risk.

~ Mortality rate is not reported if 25 or fewer cases.

⁴ Behavioral Risk Factor Surveillance System is a national telephone survey of adults 18+. Sunburn = Percentage of adults age 18 years and older reporting having a sunburn in the last 12 months. Based on 2007 data. Percentages are population-weighted. Districts are ranked in terms of prevalence of sunburn from highest (=1) to lowest (=35). District with lower rankings (i.e. higher sunburn percentages) are at greater risk.

Top five districts with the highest risk (i.e. lowest ranks) are highlighted.

Maps illustrate rates or percentages in quantiles. No map is presented for mortality due to small numbers.

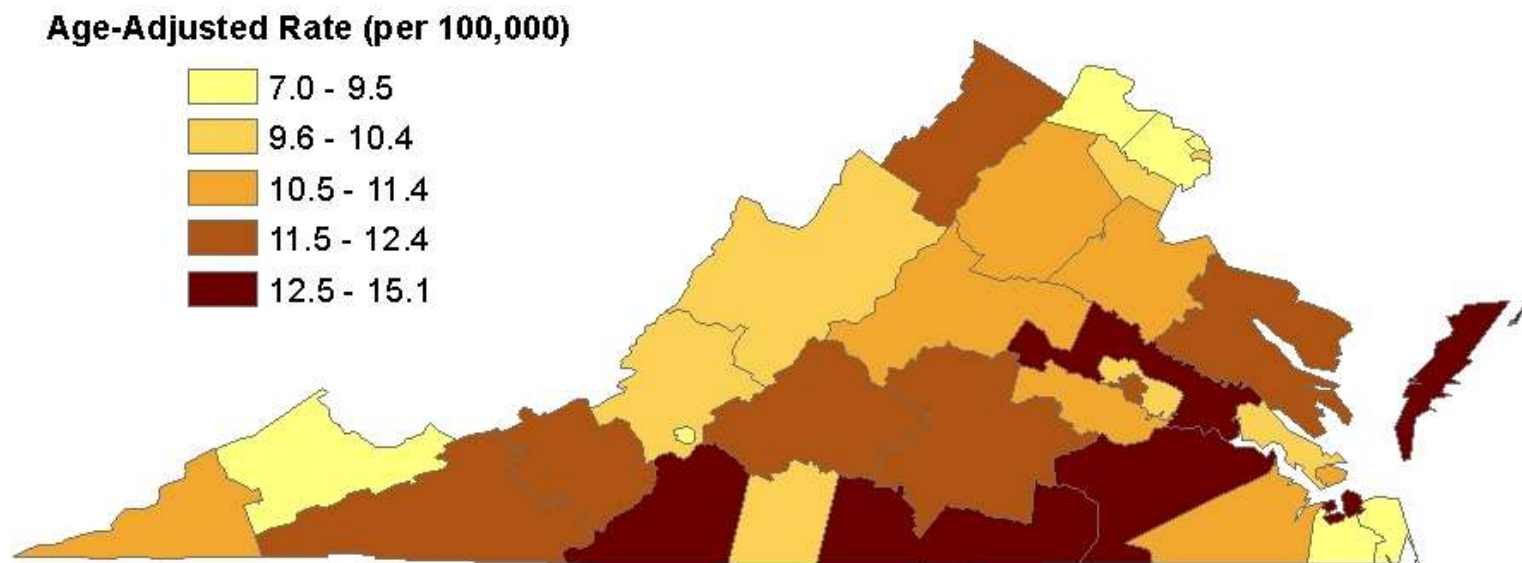
IV. Cancer Data By Health District

Oral Cavity Cancer Data By Health District

Health District	Incidence ¹				Staging ²		Mortality ³			Oral Cancer Screening and Risk Factors ⁴					
	Count	Rate per 100,000	95% CI	Rank	Percent Local Stage	Rank	Count	Rate per 100,000	95% CI	Prevalence Smokeless Tobacco	95% CI	Rank	Prevalence Oral Cancer Check	95% CI	Rank
Alexandria	67	9.7	7.5 - 12.4	27	37%	29	15	~	~	0.3%	0.1% - 1.2%	35	58.5%	48.7% - 67.6%	35
Alleghany	113	10.1	8.3 - 12.2	24	28%	11	29	2.5	1.6 - 3.4	5.1%	2.1% - 11.7%	11	47.4%	39.0% - 55.8%	22
Arlington	72	8.0	6.2 - 10.2	34	36%	27	18	~	~	2.5%	0.8% - 7.5%	26	57.2%	48.6% - 65.4%	33
Central Shenandoah	164	10.4	8.9 - 12.2	22	38%	31	24	~	~	6.6%	4.2% - 10.2%	8	35.0%	27.7% - 43.2%	5
Central Virginia	166	11.5	9.8 - 13.4	13	39%	33	47	3.2	2.2 - 4.1	3.5%	1.2% - 9.7%	21	38.2%	30.8% - 46.2%	12
Chesapeake	100	9.4	7.7 - 11.5	30	29%	15	23	~	~	0.9%	0.3% - 3.0%	32	53.2%	43.6% - 62.6%	30
Chesterfield	179	11.3	9.6 - 13.2	17	28%	13	27	2.0	1.2 - 2.7	3.9%	1.9% - 7.7%	17	57.2%	48.7% - 65.4%	34
Chickahominy	107	12.6	10.3 - 15.3	6	37%	30	12	~	~	4.4%	2.1% - 9.2%	16	52.7%	44.1% - 61.1%	27
Crater	116	14.1	11.7 - 17.0	4	28%	12	33	3.9	2.6 - 5.2	3.8%	1.7% - 8.6%	19	35.7%	28.0% - 44.2%	6
Cumberland Plateau	51	7.0	5.2 - 9.4	35	33%	22	23	~	~	13.9%	9.3% - 20.4%	1	20.6%	14.2% - 28.8%	1
Eastern Shore	50	15.1	11.1 - 20.2	1	26%	4	17	~	~	1.8%	0.6% - 5.0%	28	36.2%	28.3% - 45.0%	7
Fairfax	412	8.0	7.3 - 8.9	33	28%	8	56	1.2	0.9 - 1.5	1.3%	0.4% - 3.8%	30	55.4%	46.5% - 64.0%	31
Hampton	79	11.2	8.9 - 14.0	18	28%	7	17	~	~	5.8%	2.2% - 14.0%	10	37.1%	28.7% - 46.4%	10
Henrico	143	9.5	8.0 - 11.2	28	33%	21	35	2.2	1.4 - 2.9	2.6%	0.8% - 7.8%	25	52.9%	43.9% - 61.6%	28
Lenowisco	64	11.4	8.8 - 14.7	15	31%	19	18	~	~	12.1%	7.1% - 19.7%	2	23.6%	17.1% - 31.6%	3
Lord Fairfax	146	12.0	10.1 - 14.1	10	31%	18	26	2.1	1.3 - 2.9	3.9%	2.0% - 7.4%	18	37.1%	29.4% - 45.5%	9
Loudoun	86	8.1	6.3 - 10.2	32	30%	17	17	~	~	6.7%	1.2% - 30.2%	7	56.3%	47.2% - 64.9%	32
Mount Rogers	154	12.3	10.4 - 14.5	9	35%	26	42	3.3	2.3 - 4.3	10.9%	5.9% - 19.2%	3	20.9%	14.7% - 29.0%	2
New River	106	12.4	10.1 - 15.0	8	28%	9	22	~	~	5.0%	2.7% - 9.1%	12	38.6%	30.3% - 47.6%	13
Norfolk	144	14.5	12.2 - 17.1	2	19%	1	35	3.5	2.4 - 4.7	3.0%	1.2% - 7.3%	24	39.4%	30.7% - 48.8%	14
Peninsula	175	9.9	8.4 - 11.4	26	34%	24	42	2.4	1.7 - 3.2	0.9%	0.3% - 3.2%	33	48.6%	39.8% - 57.5%	23
Piedmont	68	11.4	8.9 - 14.6	14	29%	16	20	~	~	3.6%	1.5% - 8.2%	20	37.9%	30.3% - 46.1%	11
Pittsylvania/Danville	71	10.3	8.0 - 13.0	23	39%	34	12	~	~	3.4%	1.7% - 6.7%	22	36.6%	28.7% - 45.3%	8
Portsmouth	75	14.5	11.4 - 18.2	3	20%	2	20	~	~	1.5%	0.5% - 4.0%	29	42.4%	33.6% - 51.8%	20
Prince William	156	10.0	8.3 - 11.8	25	37%	28	37	3.3	2.2 - 4.3	7.5%	2.3% - 21.9%	6	47.2%	38.2% - 56.5%	21
Rappahannock	147	11.0	9.2 - 13.0	19	33%	20	29	2.3	1.5 - 3.2	4.6%	1.9% - 10.7%	15	49.1%	40.2% - 58.1%	25
Rappahannock/Rapidan	106	11.3	9.2 - 13.7	16	27%	6	22	~	~	7.5%	4.6% - 12.1%	5	40.6%	32.3% - 49.4%	15
Richmond City	116	11.5	9.5 - 13.8	12	27%	5	31	3.0	1.9 - 4.0	1.2%	0.5% - 3.1%	31	41.3%	33.2% - 49.9%	18
Roanoke	53	9.2	6.8 - 12.1	31	34%	25	23	~	~	4.7%	2.2% - 9.9%	13	41.6%	33.6% - 50.1%	19
Southside	81	14.1	11.1 - 17.6	5	43%	35	17	~	~	5.9%	2.7% - 12.5%	9	40.7%	32.9% - 49.0%	16
Thomas Jefferson	134	10.8	9.1 - 12.9	20	34%	23	27	2.2	1.4 - 3.0	4.6%	2.5% - 8.3%	14	53.1%	44.3% - 61.7%	29
Three Rivers	121	11.7	9.7 - 14.1	11	38%	32	29	2.8	1.8 - 3.8	0.6%	0.2% - 1.9%	34	40.8%	32.3% - 50.0%	17
Virginia Beach	191	9.5	8.2 - 10.9	29	29%	14	33	1.6	1.1 - 2.2	3.0%	1.0% - 9.0%	23	49.4%	40.7% - 58.1%	26
West Piedmont	113	12.5	10.3 - 15.1	7	28%	11	16	~	~	7.8%	4.0% - 14.6%	4	33.5%	25.4% - 42.6%	4
Western Tidewater	83	10.7	8.5 - 13.3	21	24%	3	20	~	~	2.4%	0.8% - 6.6%	27	49.0%	40.7% - 57.4%	24
VIRGINIA	4,210	10.5	10.1 - 10.8		31.3%		914	2.3	2.1 - 2.4	4.2%	3.5% - 5.1%		45.1%	43.3% - 46.9%	

IV. Cancer Data By Health District

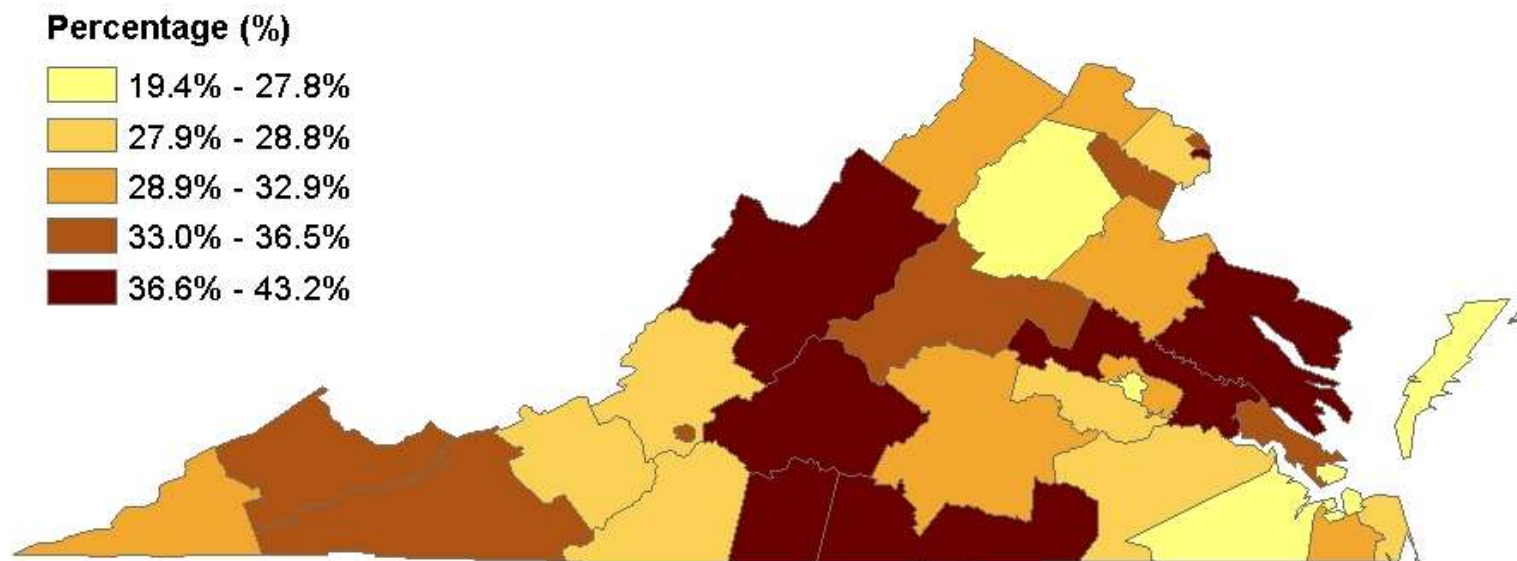
Cancer Incidence Rate by Health District, Oral Cavity, Virginia, 2005-2009



Source: Virginia Cancer Registry, Virginia Department of Health.
Rates are age-adjusted to the 2000 U.S. standard population.

IV. Cancer Data By Health District

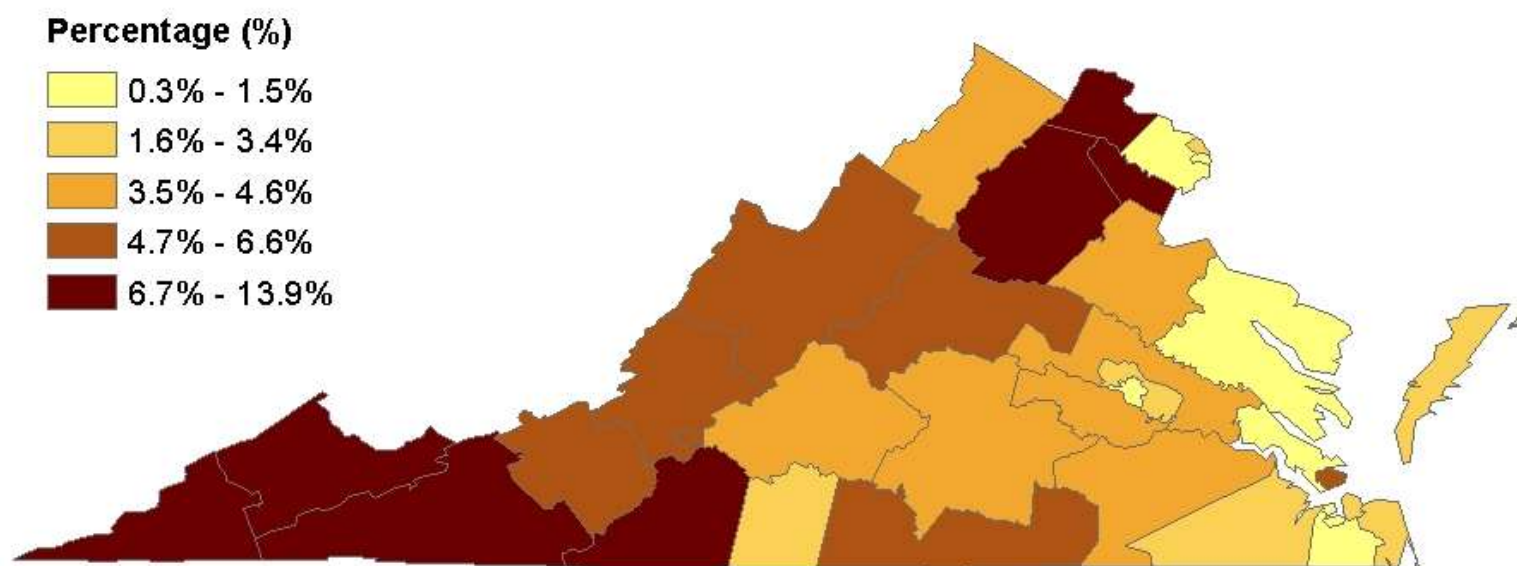
Percentage of Cancer Cases Diagnosed at Local Stage by Health District,
Oral Cavity, Virginia, 2005-2009



Source: Virginia Cancer Registry, Virginia Department of Health.

IV. Cancer Data By Health District

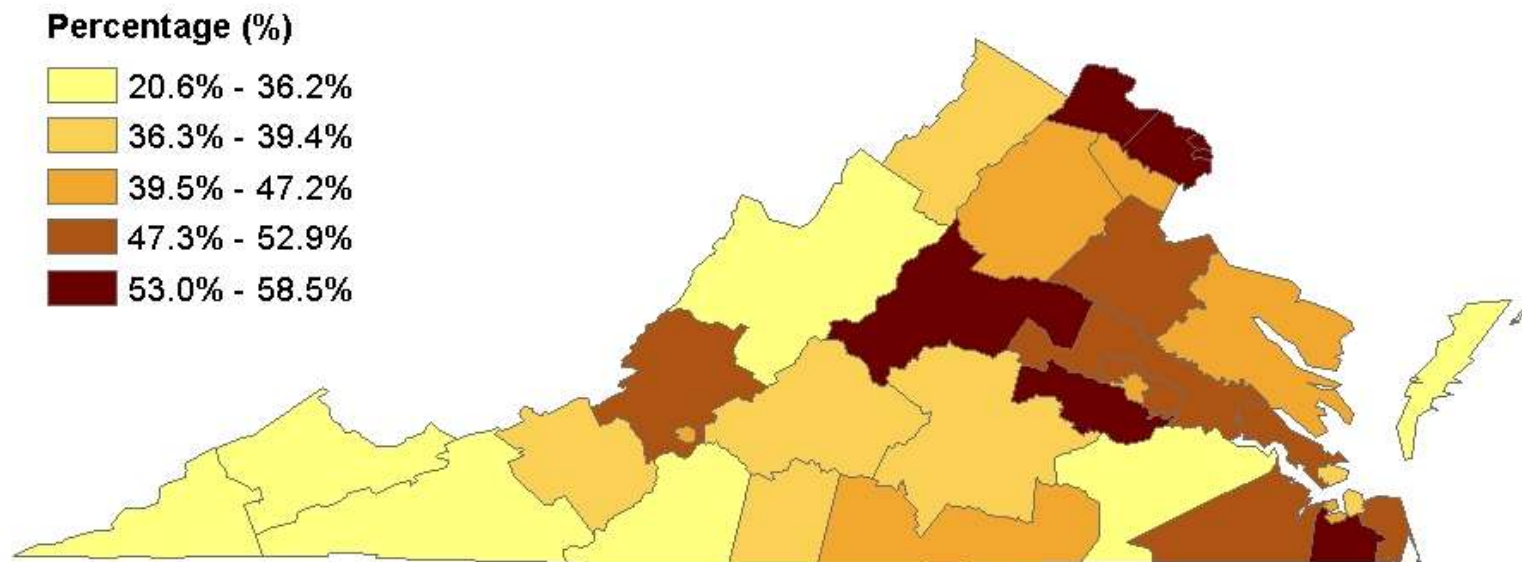
Current Smokeless Tobacco Use by Health District,
Adults 18 and Older, Virginia, 2009-2010



Source: Virginia Behavioral Risk Factor Surveillance System. Percentages are weighted.

IV. Cancer Data By Health District

Oral Cancer Check in the Past Twelve Months by Health District, Adults 40 and Older, Virginia, 2009-2010



Source: Virginia Behavioral Risk Factor Surveillance System. Percentages are weighted.

IV. Cancer Data By Health District

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics); screening prevalence (Behavioral Risk Factor Surveillance System).

¹Based on combined 2005-2009 data. Rates are age- adjusted to the 2000 U.S. standard population. Districts are ranked in terms of incidence rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher incidence rates) are at greater risk.

²Based on combined 2005-2009 data. Percentage of Local Stage cancers are reported using the Summary Staging System. Districts are ranked in terms of percentage of cases diagnosed early (local) from lowest (=1) to highest (=35). Districts with lower rankings (i.e. lower early stage percentages) are at greater risk.

³Based on combined 2006-2010 data. Rates are age- adjusted to the 2000 U.S. standard population. Districts are ranked in terms of mortality rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher mortality rates) are at greater risk.

~Mortality rate is not reported if 25 or fewer deaths.

⁴ Behavioral Risk Factor Surveillance System is a national telephone survey of adults 18+. District and state estimates are based on 2009 and 2010 (pooled) data for both smokeless tobacco use and oral cancer screening. Percentages are population-weighted.

Smokeless Tobacco Use = Percentage of adults 18+ years reporting currently using smokeless tobacco. Districts are ranked in terms of prevalence of smokeless tobacco use from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher smokeless tobacco use) are at greater risk.

Oral Cancer Screening = Percentage of adults age 40+ reporting an oral cancer check by a doctor or dentist within the past 12 months. Districts are ranked in terms of oral cancer screening prevalence from lowest (=1) to highest (=35). Districts with lower rankings (i.e. lower oral cancer screening prevalence) are at greater risk

Top five districts with the highest risk (i.e. lowest rank) are highlighted.

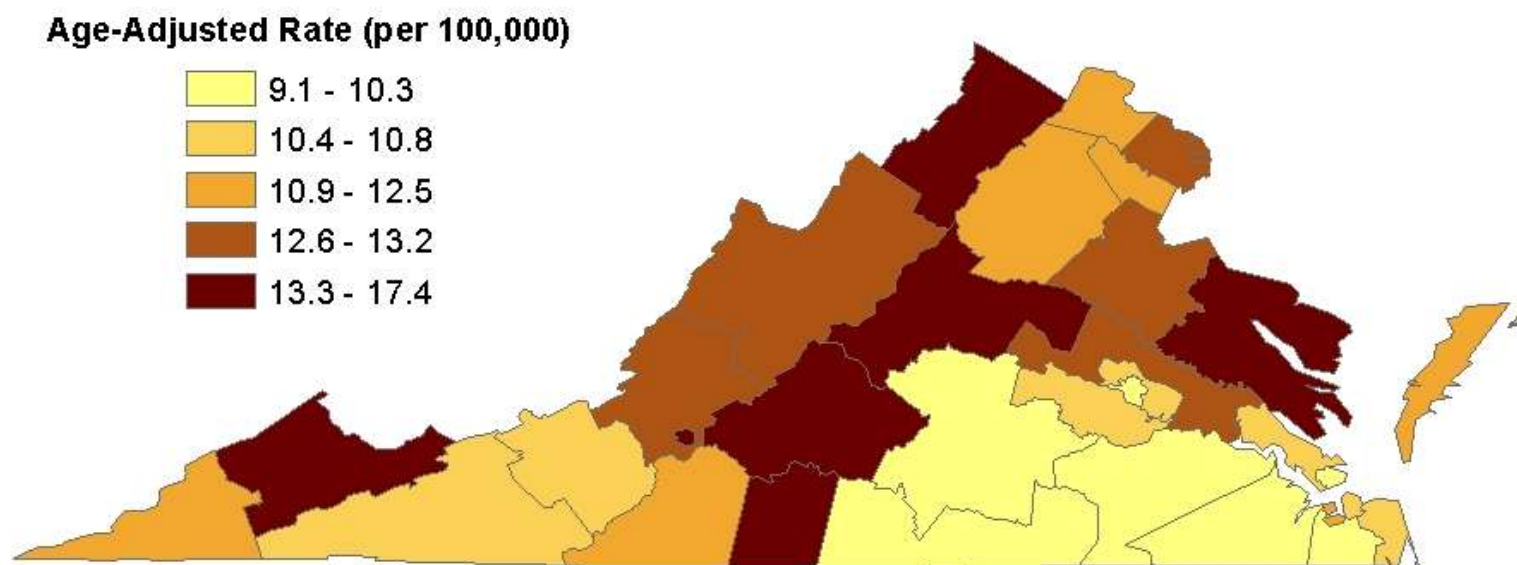
Maps illustrate rates or percentages in quantiles. Mortality map for oral cancer is not presented due to low mortality numbers.

IV. Cancer Data By Health District
Ovarian Cancer Data By Health District

Health District	Incidence ¹				Staging ²	Mortality ³			
	Count	Rate per 100,000	95% CI	Rank	Percent Local Stage	Count	Rate per 100,000	95% CI	Rank
Alexandria	49	12.7	9.3 - 16.9	11	~	23	~	~	NA
Alleghany	77	12.6	9.9 - 15.8	13	14%	60	9.4	7.0 - 11.8	7
Arlington	61	12.7	9.6 - 16.5	10	~	45	9.0	6.4 - 11.7	10
Central Shenandoah	115	13.2	10.9 - 15.9	8	10%	97	10.4	8.3 - 12.5	3
Central Virginia	108	13.7	11.2 - 16.6	5	17%	70	8.2	6.3 - 10.2	20
Chesapeake	55	9.9	7.4 - 12.9	32	~	39	6.8	4.7 - 9.0	31
Chesterfield	87	10.4	8.3 - 12.9	28	15%	67	8.3	6.3 - 10.3	17
Chickahominy	53	12.5	9.3 - 16.5	14	~	42	9.8	6.8 - 12.8	4
Crater	46	10.3	7.5 - 13.9	29	~	38	8.2	5.6 - 10.8	21
Cumberland Plateau	51	13.9	10.2 - 18.4	4	~	28	7.1	4.5 - 9.8	28
Eastern Shore	21	11.7	7.0 - 18.5	17	~	19	~	~	NA
Fairfax	351	13.1	11.7 - 14.6	9	17%	217	8.1	7.0 - 9.1	22
Hampton	35	9.2	6.4 - 12.8	34	~	43	10.9	7.7 - 14.2	1
Henrico	88	10.5	8.4 - 12.9	26	14%	83	9.0	7.1 - 11.0	9
Lenowisco	34	11.3	7.7 - 16.0	19	~	22	~	~	NA
Lord Fairfax	92	14.2	11.4 - 17.5	3	12%	66	9.6	7.3 - 11.9	6
Loudoun	58	11.2	8.3 - 14.6	20	24%	27	5.7	3.5 - 7.8	32
Mount Rogers	72	10.5	8.1 - 13.3	27	17%	54	7.5	5.5 - 9.5	26
New River	48	10.8	7.9 - 14.5	22	~	42	8.8	6.2 - 11.5	12
Norfolk	62	10.7	8.2 - 13.8	25	~	49	8.3	6.0 - 10.7	15
Peninsula	103	10.8	8.8 - 13.1	23	12%	75	7.8	6.0 - 9.5	23
Piedmont	33	10.1	6.9 - 14.5	31	~	27	7.3	4.5 - 10.0	27
Pittsylvania/Danville	51	13.4	9.9 - 17.9	7	~	36	8.3	5.6 - 11.0	19
Portsmouth	33	11.8	8.1 - 16.6	16	~	26	8.3	5.1 - 11.5	18
Prince William	94	11.1	8.8 - 13.7	21	27%	61	7.8	5.8 - 9.7	24
Rappahannock	92	12.7	10.2 - 15.6	11	~	66	9.6	7.3 - 12.0	5
Rappahannock/Rapidan	56	11.5	8.6 - 15.0	18	~	45	9.1	6.5 - 11.8	8
Richmond City	56	9.2	6.9 - 12.1	33	~	46	6.8	4.9 - 8.8	30
Roanoke	54	17.4	12.8 - 23.0	1	26%	32	8.4	5.5 - 11.3	14
Southside	29	9.1	6.0 - 13.6	35	~	30	9.0	5.8 - 12.2	11
Thomas Jefferson	92	13.6	10.9 - 16.7	6	13%	73	10.4	8.0 - 12.8	2
Three Rivers	73	14.9	11.5 - 19.1	2	~	48	8.7	6.2 - 11.2	13
Virginia Beach	118	10.8	8.9 - 12.9	24	14%	83	7.5	5.9 - 9.1	25
West Piedmont	61	12.5	9.5 - 16.2	15	~	38	7.0	4.8 - 9.3	29
Western Tidewater	43	10.2	7.4 - 13.8	30	~	35	8.3	5.6 - 11.1	16
VIRGINIA	2,551	11.9	11.4 - 12.3		14%	1,852	8.3	7.9 - 8.7	

IV. Cancer Data By Health District

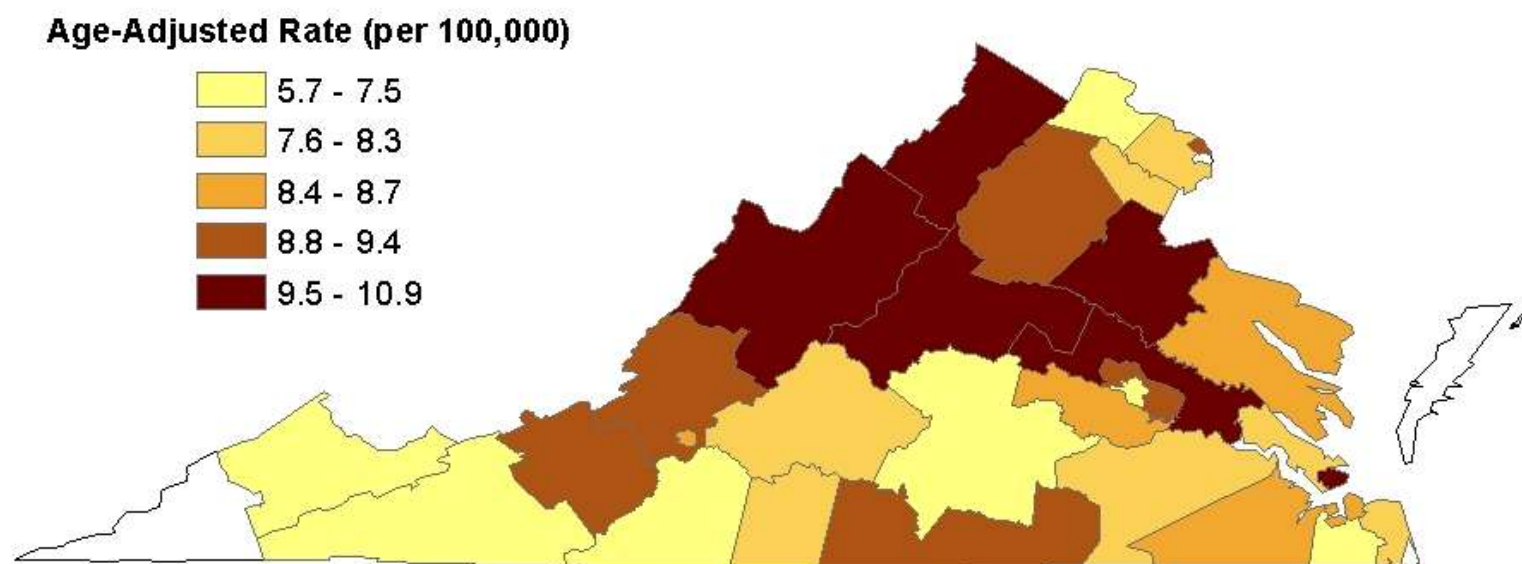
Cancer Incidence Rate by Health District, Ovarian, Virginia, 2005-2009



Source: Virginia Cancer Registry, Virginia Department of Health.
Rates are age-adjusted to the 2000 U.S. standard population.

IV. Cancer Data By Health District

Cancer Mortality Rate by Health District, Ovarian, Virginia, 2006-2010



Source: Division of Health Statistics, Virginia Department of Health.
Rates are age-adjusted to the 2000 U.S. standard population.

IV. Cancer Data By Health District

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics); screening prevalence (Behavioral Risk Factor Surveillance System).

¹Based on combined 2005-2009 data. Rates are age- adjusted to the 2000 U.S. standard population. Districts are ranked in terms of incidence rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher incidence rates) are at greater risk.

² Based on combined 2005-2009 data. Percentage of Local Stage cancers are reported using the Summary Staging System. Districts are ranked in terms of percentage of cases diagnosed early (local) from lowest (=1) to highest (=35). Districts with lower rankings (i.e. lower early stage percentages) are at greater risk.

³Based on combined 2006-2010 data. Rates are age- adjusted to the 2000 U.S. standard population. Districts are ranked in terms of mortality rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher mortality rates) are at greater risk.

~Incidence count is not reported if >0 and <11. Incidence rate is not reported if fewer than 16 cases. Percent local stage not reported if reflects a count >0 and <11. Mortality rate is not reported if 25 or fewer deaths. Death count is not reported if >0 and <5.

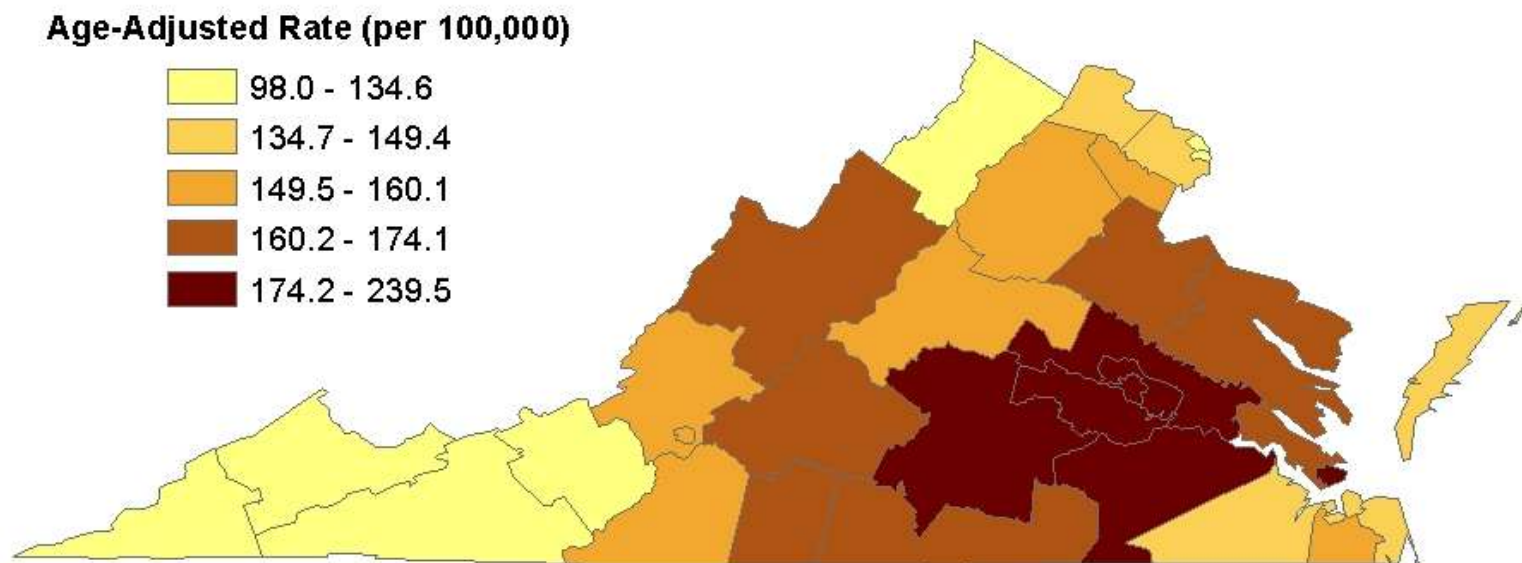
Maps illustrate rates in quantiles. Health districts with low mortality numbers are shown in white and not included in quantiles.

IV. Cancer Data By Health District
Prostate Cancer Data By Health District

Health District	Incidence ¹			Rank	Staging ²		Mortality ³				Prostate Cancer Screening Prevalence: PSA Test ⁴		
	Count	Rate per 100,000	95% CI		Percent Local Stage	Rank	Count	Rate per 100,000	95% CI	Rank	Prevalence	95% CI	Rank
Alexandria	333	115.9	103.4 - 129.4	33	75%	7	51	20.6	15.0 - 26.3	29	78.3%	62.4% - 88.7%	35
Alleghany	792	151.8	141.2 - 163.0	21	85%	33	96	22.0	17.6 - 26.4	26	61.3%	49.4% - 72.0%	28
Arlington	485	123.7	112.4 - 135.7	30	72%	2	64	21.6	16.3 - 26.9	27	54.7%	39.3% - 69.3%	17
Central Shenandoah	1,224	169.5	160.1 - 179.5	9	75%	6	145	22.5	18.8 - 26.1	23	54.7%	43.0% - 66.0%	16
Central Virginia	1,135	166.8	157.1 - 177.0	12	83%	29	146	24.7	20.7 - 28.8	17	54.7%	43.4% - 65.5%	15
Chesapeake	691	151.9	140.3 - 164.2	20	80%	22	96	30.0	24.0 - 36.0	6	60.3%	48.7% - 70.9%	26
Chesterfield	1,660	239.5	226.9 - 252.7	1	80%	23	125	28.7	23.7 - 33.8	7	57.5%	43.0% - 70.7%	22
Chickahominy	727	190.4	176.2 - 205.5	6	77%	15	64	22.3	16.8 - 27.7	24	59.2%	47.1% - 70.4%	25
Crater	847	232.9	217.0 - 249.5	2	78%	19	124	41.9	34.6 - 49.3	1	56.2%	44.9% - 66.8%	20
Cumberland Plateau	366	113.4	101.6 - 126.3	34	84%	32	55	22.8	16.8 - 28.8	22	40.4%	29.6% - 52.2%	1
Eastern Shore	242	149.4	130.9 - 170.0	22	71%	1	34	23.0	15.3 - 30.8	21	57.6%	46.7% - 67.8%	23
Fairfax	3,213	136.0	131.0 - 141.0	27	76%	8	311	19.5	17.3 - 21.7	34	64.9%	51.0% - 76.6%	31
Hampton	697	224.5	207.9 - 242.2	3	86%	34	72	28.5	21.9 - 35.1	8	58.1%	44.2% - 70.8%	24
Henrico	1,363	214.3	202.9 - 226.2	4	77%	14	104	18.6	15.0 - 22.1	35	66.8%	52.6% - 78.5%	34
Lenowisco	256	98.0	86.1 - 111.1	35	73%	4	44	20.5	14.4 - 26.6	30	49.0%	36.5% - 61.7%	6
Lord Fairfax	694	117.5	108.7 - 126.8	32	75%	5	94	20.0	16.0 - 24.1	32	45.1%	33.7% - 57.0%	3
Loudoun	613	143.1	130.8 - 156.1	25	76%	11	67	25.4	19.3 - 31.5	14	51.5%	37.9% - 64.8%	10
Mount Rogers	710	121.1	112.2 - 130.6	31	80%	24	105	20.3	16.4 - 24.2	31	51.1%	38.7% - 63.3%	9
New River	536	134.6	123.2 - 146.8	29	83%	30	70	22.2	17.0 - 27.5	25	47.5%	36.0% - 59.2%	5
Norfolk	583	140.9	129.5 - 153.0	26	73%	3	98	26.3	21.1 - 31.5	11	51.7%	38.5% - 64.6%	11
Peninsula	1,276	162.8	153.8 - 172.1	13	82%	28	153	23.1	19.5 - 26.8	20	55.2%	42.3% - 67.5%	18
Piedmont	506	177.2	161.9 - 193.6	7	76%	10	62	25.4	19.0 - 31.7	15	65.9%	53.7% - 76.3%	33
Pittsylvania/Danville	533	168.4	154.2 - 183.6	11	83%	31	92	32.7	26.0 - 39.3	5	52.5%	39.2% - 65.5%	12
Portsmouth	315	145.6	129.8 - 162.7	24	79%	20	71	35.4	27.1 - 43.6	3	50.4%	38.3% - 62.4%	8
Prince William	1,023	155.5	144.7 - 166.8	17	76%	12	103	26.4	21.3 - 31.5	10	54.1%	41.5% - 66.2%	14
Rappahannock	1,005	174.1	162.7 - 185.9	8	81%	27	105	25.6	20.7 - 30.6	13	65.8%	54.1% - 75.9%	32
Rappahannock/Rapidan	681	153.4	141.7 - 165.8	19	77%	13	66	20.0	15.2 - 24.8	33	61.2%	50.0% - 71.4%	27
Richmond City	857	200.7	187.4 - 214.7	5	76%	9	119	28.4	23.3 - 33.5	9	49.2%	37.0% - 61.5%	7
Roanoke	383	160.1	144.3 - 177.1	15	77%	17	57	23.6	17.5 - 29.7	19	56.5%	44.2% - 68.0%	21
Southside	469	168.5	153.4 - 184.8	10	81%	26	81	34.5	27.0 - 42.0	4	55.7%	43.4% - 67.4%	19
Thomas Jefferson	890	156.1	145.9 - 167.0	16	81%	25	126	24.8	20.4 - 29.1	16	46.4%	35.0% - 58.1%	4
Three Rivers	803	162.0	150.8 - 173.9	14	79%	21	113	25.8	21.1 - 30.6	12	62.5%	50.6% - 73.1%	30
Virginia Beach	1,199	135.3	127.5 - 143.5	28	77%	16	147	21.6	18.1 - 25.0	28	54.1%	42.6% - 65.2%	13
West Piedmont	678	155.1	143.4 - 167.6	18	88%	35	94	24.7	19.7 - 29.6	18	44.7%	32.5% - 57.6%	2
Western Tidewater	534	148.2	135.5 - 161.8	23	77%	18	103	37.4	30.2 - 44.6	2	61.9%	48.6% - 73.7%	29
VIRGINIA	28,319	157.7	155.8 - 159.6		79%		3,457	24.1	23.3 - 24.9		56.5%	53.9% - 59.1%	

IV. Cancer Data By Health District

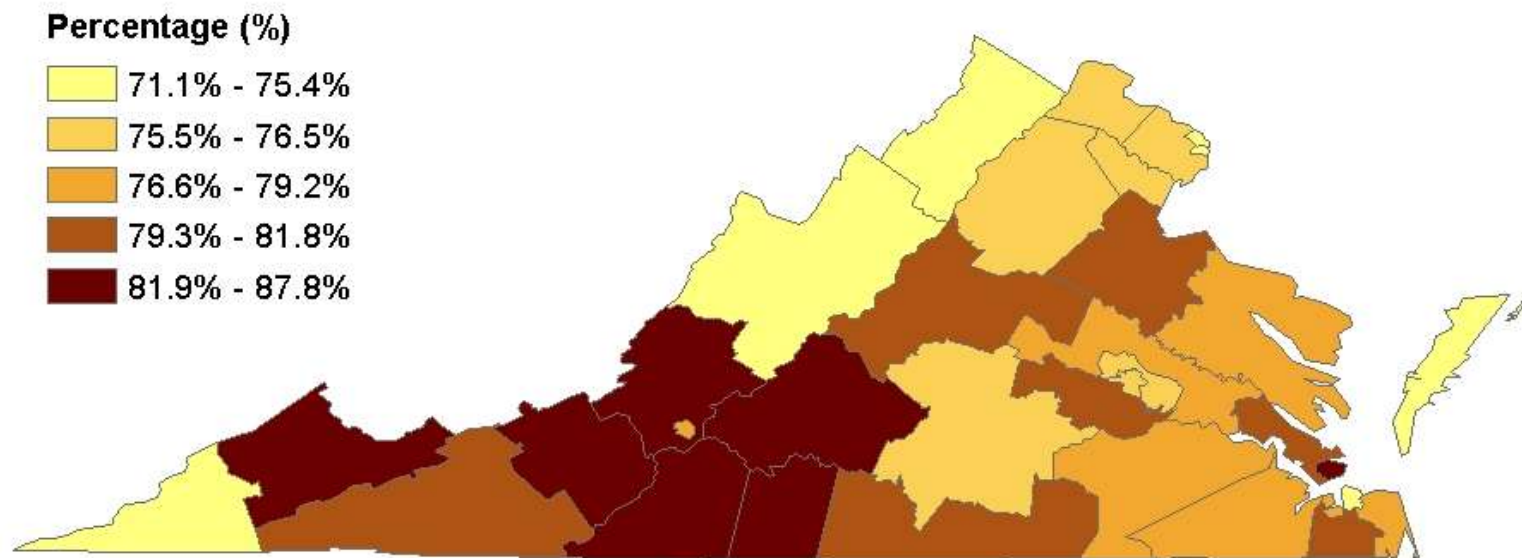
Cancer Incidence Rate by Health District, Prostate, Virginia, 2005-2009



Source: Virginia Cancer Registry, Virginia Department of Health.
Rates are age-adjusted to the 2000 U.S. standard population.

IV. Cancer Data By Health District

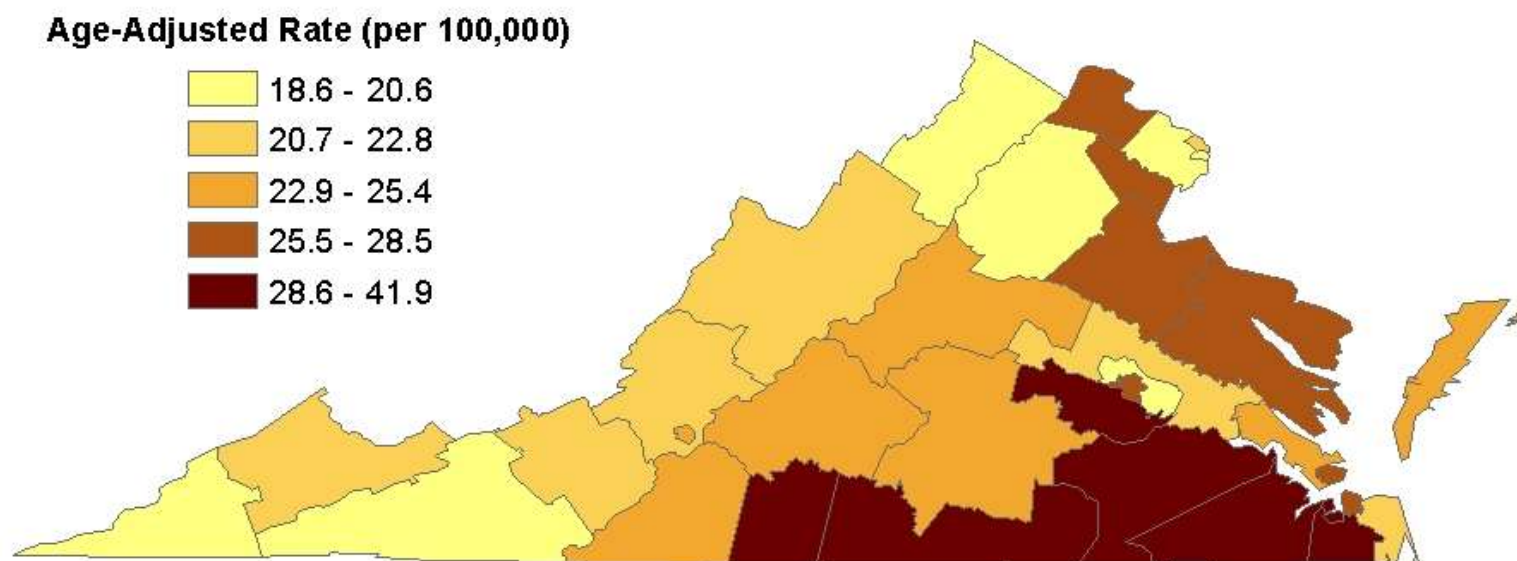
Percentage of Cancer Cases Diagnosed at Local Stage by Health District, Prostate, Virginia, 2005-2009



Source: Virginia Cancer Registry, Virginia Department of Health.

IV. Cancer Data By Health District

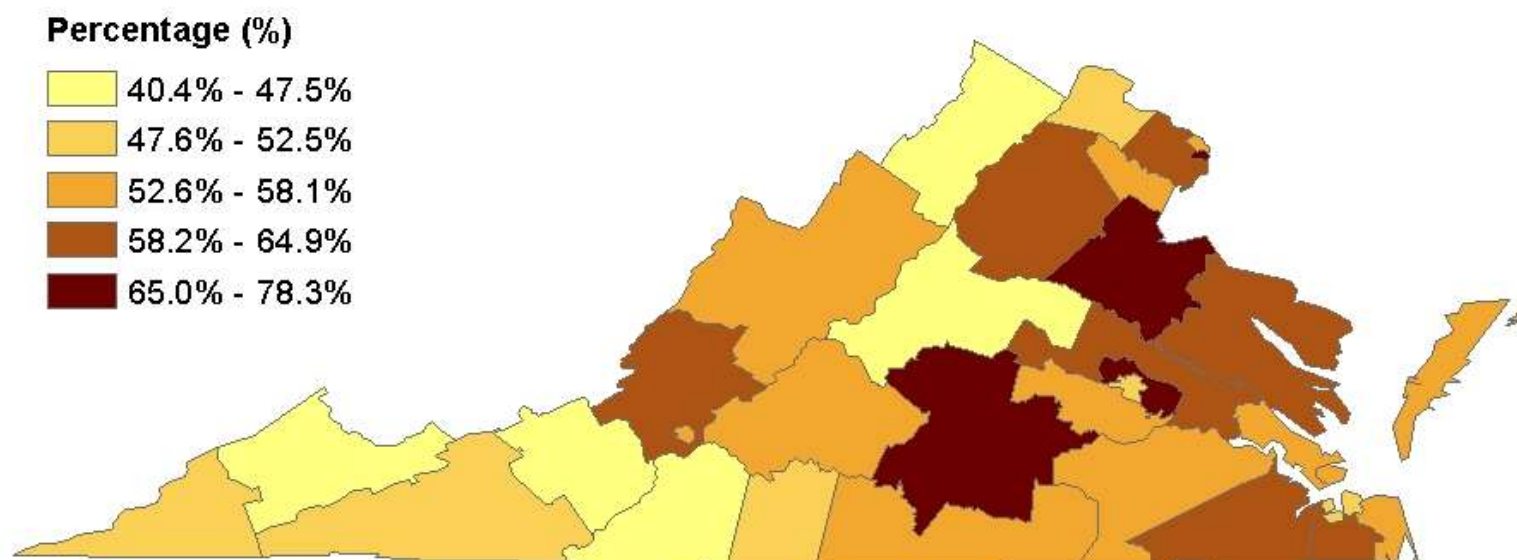
Cancer Mortality Rate by Health District, Prostate, Virginia, 2006-2010



Source: Division of Health Statistics, Virginia Department of Health.
Rates are age-adjusted to the 2000 U.S. standard population.

IV. Cancer Data By Health District

Prostate-Specific Antigen (PSA) Test Within the Past Two Years by Health District, Men 40 and Older, Virginia, 2008-2010



Source: Virginia Behavioral Risk Factor Surveillance System. Percentages are weighted.

IV. Cancer Data By Health District

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics); screening prevalence (Behavioral Risk Factor Surveillance System)

¹ Based on combined 2005-2009 data. Age-adjusted rates are reported and adjusted to the 2000 U.S. standard population. Districts are ranked in terms of incidence rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher incidence rates) are at greater risk.

² Based on combined 2005-2009 data. Percent of Local Stage cancers reported using the Summary Staging System. Districts are ranked in terms of percentage of cases diagnosed early (local) from lowest (=1) to highest (=35). Districts with lower rankings (i.e. lower early stage percentages) are at greater risk.

³ Based on combined 2006-2010 data. Mortality rates are age-adjusted using the 2000 Standard Population. Districts are ranked in terms of mortality rates from highest (=1) to lowest (=35). Districts with lower rankings (i.e. higher mortality rates) are at greater risk.

⁴ Behavioral Risk Factor Surveillance System is a national telephone survey of adults 18+. Prostate Cancer Screening = Percentage of men age 40 years and older reporting having a PSA test in past two years. Based on data from 2008 and 2010 (pooled). Percentages are population-weighted. Districts are ranked in terms of prevalence of prostate cancer screening from lowest (=1) to highest (=35). District with lower rankings (i.e. lower PSA test prevalence) are at greater risk.

Top five districts with the highest risk (i.e. lowest ranks) are highlighted.

Maps illustrate rates or percentages in quantiles.

V. Cancer Data By Race

V. Cancer Data By Race

All Sites Cancer Data By Race

Race	Incidence ¹			Staging ²	Mortality ³		
	Count	Rate per 100,000	95% CI	Percent Local Stage	Count	Rate per 100,000	95% CI
All African-Americans	31,629	482.3	476.9- 487.7	44%	13,709	215.1	211.5 - 218.7
African-American Men	17,056	628.0	618.1 - 638.0	48%	7,168	284.8	278.2 -291.4
African-American Women	14,573	384.8	378.1 - 391.2	40%	6,541	173.0	168.8 - 177.2
All Whites	139,945	450.3	447.9 - 452.7	47%	54,335	173.3	171.8 - 174.7
White Men	72,685	522.3	518.4 - 526.2	48%	28,339	211.5	209.1 - 214.0
White Women	67,260	400.7	397.6 - 403.8	46%	25,996	147.3	145.5 - 149.1

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics)

¹ Based on combined 2005-2009 data. Incidence rates are age-adjusted to the 2000 U.S. standard population.

² Based on combined 2005-2009 data. Percent of Local Stage cancers reported using the Summary Staging System.

³ Based on combined 2006-2010 data. Mortality rates are age-adjusted to the 2000 U.S. standard population.

V. Cancer Data By Race
Select Cancer Risk Factor Data By Race

Race	Overweight ¹		Current Smoking ²	
	Prevalence	95% CI	Prevalence	95% CI
All African-Americans	73.5%	68.9% - 77.7%	18.3%	15.3% - 21.8%
African-American Men	72.6%	64.9% - 79.1%	22.9%	17.2% - 29.7%
African-American Women	74.2%	68.4% - 79.3%	14.9%	12.1% - 18.3%
All Whites	61.2%	59.7% - 62.8%	17.6%	16.4% - 18.7%
White Men	69.9%	67.3% - 72.3%	18.9%	17.1% - 20.9%
White Women	52.6%	50.7% - 54.6%	16.3%	15.0% - 17.6%

Source: Behavioral Risk Factor Surveillance System

¹ Overweight = Percentage of adults who report having a BMI greater than or equal to 25. Based on 2008-2010 data (pooled). Percentages are population-weighted.

² Smoking=Percentage of adults who report currently smoking and have smoked at least 100 cigarettes in their lifetime Based on 2008-2010 data (pooled). Percentages are population-weighted.

V. Cancer Data By Race
Breast Cancer (Female) Data By Race

Race	Incidence ¹			Staging ²	Mortality ³			Screening ⁴	
	Count	Rate per 100,000	95% CI	Percent Local Stage	Count	Rate per 100,000	95% CI	Prevalence Mammography	95% CI
African-American Women	4,881	126.1	122.5 - 130.0	53%	1,299	33.0	31.2 - 34.8	81.1%	77.1% - 84.6%
White Women	20,824	124.2	122.5 - 126.0	63%	3,916	22.3	21.6 - 23.0	77.7%	75.8% - 79.4%

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics); screening prevalence (Behavioral Risk Factor Surveillance System)

¹ Based on combined 2005-2009 data. Incidence rate are age-adjusted to the 2000 U.S. standard population.

² Based on combined 2005-2009 data. Percent of Local Stage cancers reported using the Summary Staging System.

³ Based on combined 2006-2010 data. Mortality rates are age-adjusted to the 2000 U.S. standard population.

⁴ Behavioral Risk Factor Surveillance System is a national telephone survey of adults 18+. Breast Cancer Screening = Percent of women age 40 years and older reporting having a mammogram in past two years. Based on 2008 and 2010 data (pooled). Percentages are population-weighted.

V. Cancer Data By Race
Cervical Cancer Data By Race

Race	Incidence ¹			Staging ²	Mortality ³			Screening ⁴	
	Count	Rate per 100,000	95% CI	Percent Local Stage	Count	Rate per 100,000	95% CI	Prevalence Pap Test	95% CI
African-American Women	281	7.2	6.3 - 8.1	40%	133	3.4	2.8 - 4.0	86.5%	79.5% - 91.3%
White Women	960	6.4	6.0 - 6.8	51%	295	1.8	1.6 - 2.0	84.4%	81.7% - 86.8%

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics); screening prevalence (Behavioral Risk Factor Surveillance System)

¹ Based on combined 2005-2009 data. Incidence rates are age-adjusted to the 2000 U.S. standard population.

² Based on combined 2005-2009 data. Percent of Local Stage cancers reported using the Summary Staging System.

³ Based on combined 2006-2010 data. Mortality rates are age-adjusted to the 2000 U.S. standard population.

⁴ Behavioral Risk Factor Surveillance System is a national telephone survey of adults 18+. Cervical Cancer Screening = Percentage of women age 18 years and older reporting having a Pap test in past three years. Women who had a hysterectomy are excluded. Based on 2008 and 2010 data (pooled). Percentages are population-weighted.

V. Cancer Data By Race
Colorectal Cancer Data By Race

Race	Incidence ¹			Staging ²	Mortality ³			Screening ⁴	
	Count	Rate per 100,000	95% CI	Percent Local Stage	Count	Rate per 100,000	95% CI	Prevalence Colorectal Screening	95% CI
All African-Americans	3,356	52.7	50.9 - 54.5	39%	1,409	22.2	21.0 - 23.4	68.4%	63.9% - 72.6%
African-American Men	1,667	62.9	59.8 - 66.2	38%	721	28.0	26.0 - 30.0	65.0%	56.6% - 72.6%
African-American Women	1,689	45.6	43.4 - 47.8	39%	688	18.4	17.0 - 19.8	70.8%	66.0% - 75.3%
All Whites	12,734	41.3	40.6 - 42.0	41%	4,698	15.0	14.6 - 15.4	63.6%	61.8% - 65.4%
White Men	6,510	47.6	46.7 - 48.8	41%	2,381	17.7	17.0 - 18.4	64.4%	61.5% - 67.2%
White Women	6,224	36.2	35.3 - 37.1	40%	2,317	12.9	12.4 - 13.4	63.0%	60.6% - 65.2%

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics); screening prevalence (Behavioral Risk Factor Surveillance System)

¹ Based on combined 2005-2009 data. Incidence rates are age-adjusted to the 2000 U.S. standard population.

² Based on combined 2005-2009 data. Percent of Local Stage cancers reported using the Summary Staging System.

³ Based on combined 2006-2010 data. Mortality rates are age-adjusted to the 2000 U.S. standard population.

⁴ Behavioral Risk Factor Surveillance System is a national telephone survey of adults 18+. Colorectal cancer screening = Percentage of adults 50 and older who reported having a sigmoidoscopy/colonoscopy within the past 5 years and/or a home blood stool test within the past year. Based on 2008 and 2010 data (pooled). Percentages are population-weighted.

V. Cancer Data By Race
Lung and Bronchus Cancer Data By Race

Race	Incidence ¹			Staging ²	Mortality ³			Risk Factor ⁴	
	Count	Rate per 100,000	95% CI	Percent Local Stage	Count	Rate per 100,000	95% CI	Prevalence Current Smoking	95% CI
All African-Americans	4,456	71.1	69.0 - 73.2	15%	3,519	55.5	53.6 - 57.3	18.3%	15.3% - 21.8%
African-American Men	2,620	103.2	99.1 - 107.5	14%	2,097	82.8	79.2 - 86.3	22.9%	17.2% - 29.7%
African-American Women	1,836	50.0	47.7 - 52.3	17%	1,422	38.0	36.0 - 40.0	14.9%	12.1% - 18.3%
All Whites	20,941	67.9	67.0 - 68.9	19%	16,098	51.2	50.4 - 52.0	17.6%	16.4% - 18.7%
White Men	11,317	83.7	82.1 - 85.3	17%	8,935	65.3	64.0 - 66.7	18.9%	17.1% - 20.9%
White Women	9,624	56.5	55.4 - 57.6	22%	7,163	40.8	39.8 - 41.7	16.3%	15.0% - 17.6%

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics); risk factor prevalence (Behavioral Risk Factor Surveillance System)

¹ Based on combined 2005-2009 data. Incidence rates are age-adjusted to the 2000 U.S. standard population.

² Based on combined 2005-2009 data. Percent of Local Stage cancers reported using the Summary Staging System.

³ Based on combined 2006-2010 data. Mortality rates are age-adjusted to the 2000 U.S. standard population.

⁴ Behavioral Risk Factor Surveillance System is a national telephone survey of adults 18+. Smoking=Percentage of adults who report currently smoking and have smoked at least 100 cigarettes in their lifetime. Based on 2008-2010 data (pooled). Percentages are population-weighted.

V. Cancer Data By Race
Melanoma Data By Race

Race	Incidence ¹			Staging ²	Mortality ³			Risk Factor ⁴	
	Count	Rate per 100,000	95% CI	Percent Local Stage	Count	Rate per 100,000	95% CI	Prevalence Sunburn	95% CI
All African-Americans	70	1.1	0.9 - 1.4	46%	31	0.5	.03 - .06	4.5%	2.6% - 7.6%
African-American Men	27	1.1	0.7 - 1.7	~	13	~	~	6.2%	2.7% - 13.7%
African-American Women	43	1.2	0.8 - 1.6	51%	18	~	~	3.2%	1.8% - 5.7%
All Whites	7,543	24.6	24.1 - 25.2	74%	1,144	3.6	3.4 - 3.8	37.3%	35.0% - 39.7%
White Men	4,446	31.9	31.0 - 32.9	72%	724	5.2	4.8 - 5.6	44.4%	40.3% - 48.5%
White Women	3,097	19.4	18.7 - 20.1	77%	420	2.4	2.2 - 2.6	30.8%	28.4% - 33.4%

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics); risk factor prevalence (Behavioral Risk Factor Surveillance System)

¹ Based on combined 2005-2009 data. Incidence rates are age-adjusted to the 2000 U.S. standard population.

² Based on combined 2005-2009 data. Percent of Local Stage cancers reported using the Summary Staging System.

³ Based on combined 2006-2010 data. Mortality rates are age-adjusted to the 2000 U.S. standard population.

~ Mortality rate is not reported if 25 or fewer cases.

⁴ Behavioral Risk Factor Surveillance System is a national telephone survey of adults 18+. Sunburn = Percentage of adults age 18 years and older reporting having a sunburn in the last 12 months. Based on 2007 data. Percentages are population-weighted.

V. Cancer Data By Race
Oral Cavity Cancer Data By Race

Race	Incidence ¹			Staging ²	Mortality ³			Risk Factor and Screening ⁴			
	Count	Rate per 100,000	95% CI	Percent Local Stage	Count	Rate per 100,000	95% CI	Prevalence Smokeless Tobacco	95% CI	Prevalence Oral Cancer Check	95% CI
All African-Americans	681	9.7	9.0 - 10.5	22%	211	3.1	2.7 - 3.5	3.3%	1.1% - 9.2%	31.6%	27.0% - 36.7%
African-American Men	503	16.4	14.9 - 17.9	20%	154	5.3	4.5 - 6.1	6.8%	2.1% - 20.0%	36.8%	28.5% - 46.1%
African-American Women	178	4.6	4.0 - 5.3	26%	57	1.5	1.1 - 1.8	0.6%	0.3% - 1.2%	28.3%	23.2% - 33.9%
All Whites	3,404	10.8	10.4 - 11.1	33%	688	2.2	2.0 - 2.3	4.3%	3.7% - 5.1%	48.1%	46.1% - 50.1%
White Men	2,409	16.3	15.7 - 17.0	29%	473	3.4	3.1 - 3.7	7.8%	6.5% - 9.3%	46.7%	43.6% - 49.8%
White Women	995	5.9	5.5 - 6.3	45%	215	1.2	1.0 - 1.4	1.1%	0.7% - 1.6%	49.4%	46.8% - 52.0%

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics); risk factor and screening prevalence (Behavioral Risk Factor Surveillance System)

¹ Based on combined 2005-2009 data. Incidence rates are age-adjusted to the 2000 U.S. standard population.

² Based on combined 2005-2009 data. Percent of Local Stage cancers reported using the Summary Staging System

³ Based on combined 2006-2010 data. Mortality rates are age-adjusted to the 2000 U.S. standard population.

⁴ Behavioral Risk Factor Surveillance System is a national telephone survey of adults 18+.

Smokeless Tobacco Use = Percentage of adults age 18+ years reporting current use of smokeless tobacco. Based on 2009 and 2010 (pooled) data. Percentages are population-weighted.

Oral Cancer Screening = Percentage of adults age 40+ years reporting an oral cancer check by a doctor/dentist within the past 12 months. Based on 2009 and 2010 (pooled) data. Percentages are population-weighted.

V. Cancer Data By Race
Ovarian Cancer Data By Race

Race	Incidence ¹			Staging ²	Mortality ³		
	Count	Rate per 100,000	95% CI	Percent Local Stage	Count	Rate per 100,000	95% CI
African-American Women	337	8.8	7.9 - 9.8	13%	264	7.0	6.2 - 7.9
White Women	2,087	12.4	11.9 - 13.0	14%	1,539	8.7	8.3 - 9.2

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics)

¹ Based on combined 2005-2009 data. Incidence rates are age-adjusted to the 2000 U.S. standard population.

² Based on combined 2005-2009 data. Percent of Local Stage cancers reported using the Summary Staging System.

³ Based on combined 2006-2010 data. Mortality rates are age-adjusted to the 2000 U.S. standard population.

V. Cancer Data By Race
Prostate Cancer Data By Race

Race	Incidence ¹			Staging ²	Mortality ³			Screening ⁴	
	Count	Rate per 100,000	95% CI	Percent Local Stage	Count	Rate per 100,000	95% CI	Prevalence PSA Test	95% CI
African-American Men	6,700	243.2	237.1 - 249.3	79%	1,048	50.7	47.6 - 53.8	57.7%	50.5% - 64.6%
White Men	20,569	142.0	140.0 - 144.0	79%	2,371	20.2	19.4 - 21.0	57.5%	54.7% - 60.2%

Sources: Incidence and percent local staging (VA Cancer Registry); mortality (VDH Division of Health Statistics); screening prevalence (Behavioral Risk Factor Surveillance System)

¹ Based on combined 2005-2009 data. Incidence rates are age-adjusted to the 2000 U.S. standard population.

² Based on combined 2005-2009 data. Percent of Local Stage cancers reported using the Summary Staging System.

³ Based on combined 2006-2010 data. Mortality rates are age-adjusted to the 2000 U.S. standard population.

⁴ Behavioral Risk Factor Surveillance System is a national telephone survey of adults 18+. Prostate Cancer Screening = Percentage of men age 40 years and older reporting having a PSA test in past two years. Based on data from 2008 and 2010 (pooled). Percentages are population-weighted.

VI. Cancer Risk Factor and Screening Data by SES and Insurance Coverage

VI. Cancer Risk Factor and Screening Data by SES and Insurance Coverage

Risk Factor/Screening Behavior Prevalence (95% CI) by Education

	Education	
Risk Factor	High School or Less	At Least Some College/ Technical School
Overweight/Obesity ¹	65.0% (62.1%-67.9%)	59.1% (57.1%-61.1%)
Smokeless Tobacco Use ²	7.0% (5.3%-9.3%)	2.7% (2.1%-3.4%)
Smoking ³	28.5% (26.0%-31.2%)	12.5% (11.3%-13.7%)
Sunburn ⁴	27.7% (24.5% - 31.2%)	34.0% (31.4%-36.7%)
Screening Behavior		
Colorectal Screening ⁵	60.0% (57.3%-62.6%)	65.5% (63.3%-67.7%)
Mammography Screening ⁶	73.8% (71.1%-76.3%)	80.6% (78.3%-82.6%)
Oral Cancer Screening ⁷	28.7% (26.2%-31.3%)	53.5% (51.2%-55.8%)
Pap Test ⁸	75.2% (69.9%-79.8%)	88.0% (85.2%-90.3%)
PSA Test ⁹	48.0% (44.1%-51.9%)	61.0% (57.6%-64.2%)

VI. Cancer Risk Factor and Screening Data by SES and Insurance Coverage

Risk Factor/Screening Behavior Prevalence (95% CI) by Income

	Income	
Risk Factor	\$50,000/Year or Less	\$50,000+/Year
Overweight/Obesity ¹	62.0% (59.0%-64.9%)	62.7% (60.6%-64.8%)
Smokeless Tobacco Use ²	4.6% (3.7%-5.8%)	3.0% (2.4%-3.8%)
Smoking ³	26.7% (24.3%-29.2%)	11.8% (10.6%-13.2%)
Sunburn ⁴	24.4% (21.3% - 27.7%)	38.3% (35.3% - 41.4%)
Screening Behavior		
Colorectal Screening ⁵	59.7% (57.2%-62.0%)	67.0% (64.3%-69.6%)
Mammography Screening ⁶	71.4% (68.9%-73.8%)	82.8% (80.1%-85.2%)
Oral Cancer Screening ⁷	30.9% (28.6%-33.4%)	55.0% (52.2%-57.8%)
Pap Test ⁸	77.5% (73.3%-81.2%)	92.3% (89.9%-94.1%)
PSA Test ⁹	52.0% (48.1%-55.8%)	59.3% (55.6%-62.8%)

VI. Cancer Risk Factor and Screening Data by SES and Insurance Coverage

Risk Factor/Screening Behavior Prevalence (95% CI) by Insurance Coverage

	Insurance Coverage	
Risk Factor	Yes	No
Overweight/Obesity ¹	61.7% (60.0%-63.5%)	57.3% (52.2%-62.2%)
Smokeless Tobacco Use ²	3.8% (3.1% - 4.6%)	7.7% (2.0% - 4.6%)
Smoking ³	15.1% (13.9%-16.4%)	40.4% (35.8%-45.3%)
Sunburn ⁴	32.2% (30.0% - 34.4%)	31.0% (24.9% - 37.8%)
Screening Behavior		
Colorectal Screening ⁵	65.2% (63.5%-66.9%)	38.3% (31.8%-45.3%)
Mammography Screening ⁶	80.2% (78.5%-81.8%)	51.7% (44.4%-59.0%)
Oral Cancer Screening ⁷	47.0% (45.1% - 48.9%)	19.3% (14.9% - 24.7%)
Pap Test ⁸	86.1% (83.4%-88.4%)	71.3% (63.4%-78.1%)
PSA Test ⁹	58.4% (55.7%-61.1%)	33.7% (24.1%-44.8%)

VI. Cancer Risk Factor and Screening Data by SES and Insurance Coverage

Source: Behavioral Risk Factor Surveillance System

¹ Overweight/Obesity = Percentage of adults who report having a BMI greater than or equal to 25. Based on 2008-2010 data (pooled). Percentages are population-weighted.

² Smokeless Tobacco Use = Percentage of adults age 18+ years reporting current use of smokeless tobacco. Based on 2009 and 2010 (pooled) data. Percentages are population-weighted.

³ Smoking=Percentage of adults who report currently smoking and have smoked at least 100 cigarettes in their lifetime. Based on 2008-2010 data (pooled). Percentages are population-weighted.

⁴ Sunburn = Percentage of adults reporting having had a sunburn in the last 12 months. Based on 2007 data. Percentages are population-weighted.

⁵ Colorectal Screening = Percentage of adults 50 and older who reported having a sigmoidoscopy/colonoscopy within the past 5 years and/or a home blood stool test within the past year. Based on 2008 and 2010 data (pooled). Percentages are population-weighted.

⁶ Mammography Screening = Percentage of women age 40 years and older reporting having a mammogram in past two years. Based on 2008 and 2010 data (pooled). Percentages are population-weighted.

⁷ Oral Cancer Screening = Percentage of adults age 40+ years reporting an oral cancer check by a doctor/dentist within the past 12 months. Based on 2009 and 2010 (pooled) data. Percentages are population-weighted.

⁸ Pap Test = Percentage of women age 18 years and older reporting having a Pap test in past three years. Women who had a hysterectomy are excluded. Based on 2008 and 2010 data (pooled). Percentages are population-weighted.

⁹ PSA Test = Percentage of men age 40 years and older reporting having a PSA test in past two years. Based on data from 2008 and 2010 (pooled). Percentages are population-weighted.

VII. Cancer Survivorship

VII. Cancer Survivorship

Health District	Survivorship ¹	
	Prevalence	95% CI
Alexandria	8.6%	5.2% - 14.1%
Alleghany	9.2%	5.5% - 15.1%
Arlington	6.9%	3.4% - 13.5%
Central Shenandoah	7.3%	4.1% - 12.8%
Central Virginia	12.6%	7.9% - 19.5%
Chesapeake	6.2%	3.4% - 11.1%
Chesterfield	11.9%	7.2% - 19.0%
Chickahominy	8.3%	4.8% - 13.9%
Crater	12.7%	7.9% - 19.7%
Cumberland Plateau	11.0%	6.5% - 17.9%
Eastern Shore	10.7%	6.3% - 17.4%
Fairfax	7.1%	4.1% - 12.1%
Hampton	11.2%	6.5% - 18.7%
Henrico	9.6%	5.8% - 15.7%
Lenowisco	12.7%	6.6% - 23.0%
Lord Fairfax	9.5%	5.5% - 15.8%
Loudoun	6.5%	3.6% - 11.5%
Mount Rogers	9.5%	5.2% - 16.6%
New River	7.6%	4.3% - 12.9%
Norfolk	16.2%	9.7% - 25.7%
Peninsula	7.0%	3.9% - 12.5%
Piedmont	8.5%	5.1% - 13.8%
Pittsylvania/Danville	5.6%	3.0% - 10.0%
Portsmouth	7.5%	3.4% - 15.6%
Prince William	4.9%	2.5% - 9.5%
Rappahannock	9.5%	5.5% - 15.9%
Rappahannock/Rapidan	9.3%	5.3% - 15.7%
Richmond City	13.7%	8.7% - 20.8%
Roanoke	15.8%	10.3% - 23.5%
Southside	9.9%	6.1% - 15.8%
Thomas Jefferson	9.2%	5.5% - 14.8%
Three Rivers	15.8%	10.4% - 23.3%
Virginia Beach	7.1%	4.1% - 11.8%
West Piedmont	15.2%	9.8% - 22.8%
Western Tidewater	9.6%	5.8% - 15.5%
VIRGINIA	9.0%	8.1% - 10.0%

VII. Cancer Survivorship

Source: Behavioral Risk Factor Surveillance System

¹ Survivorship = Percentage of adults who report ever having a cancer diagnosis. Based on 2009 data. Percentages are population-weighted.

Comprehensive Cancer Prevention and Control Project

Division of Chronic Disease Prevention and Control
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